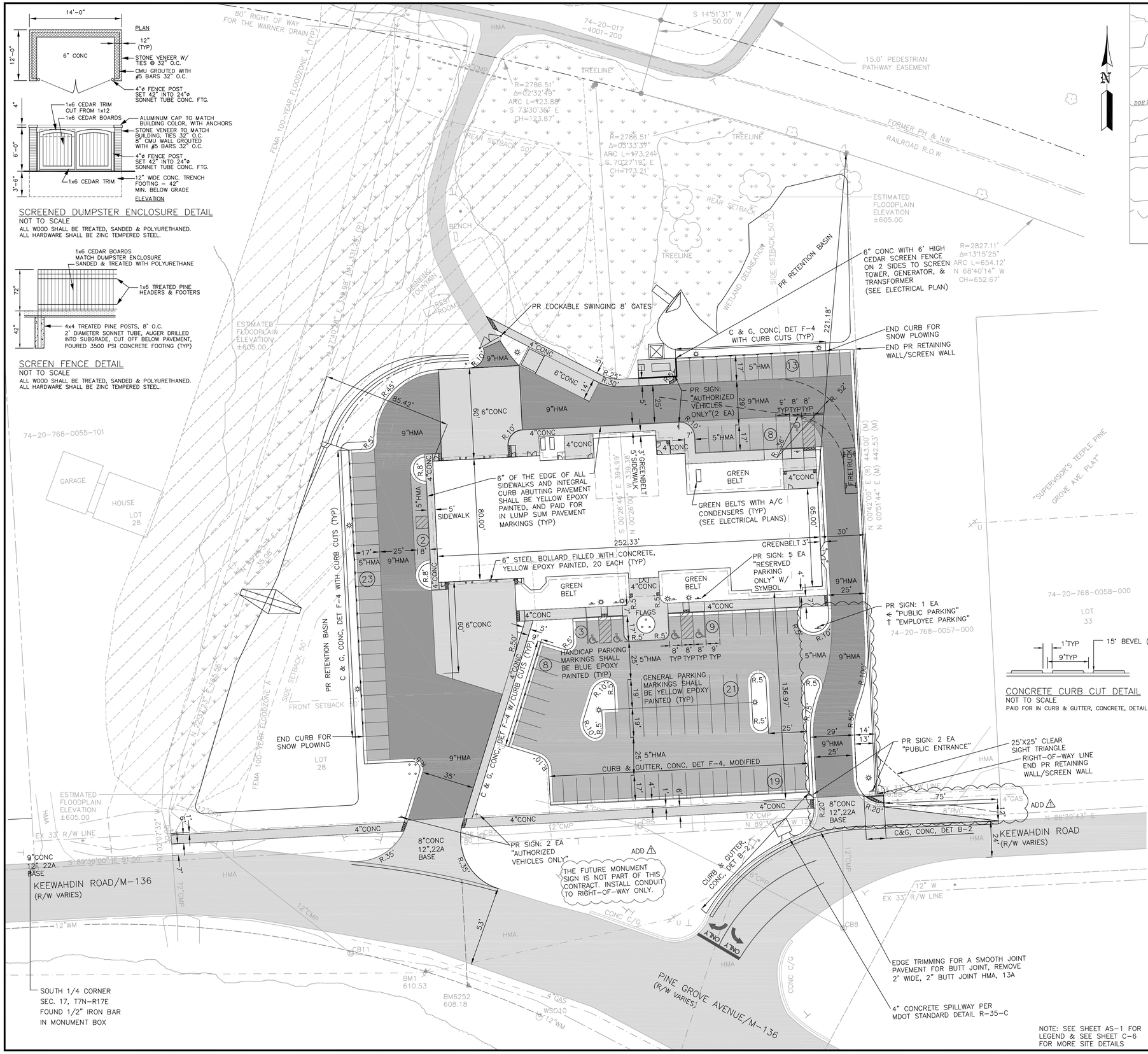
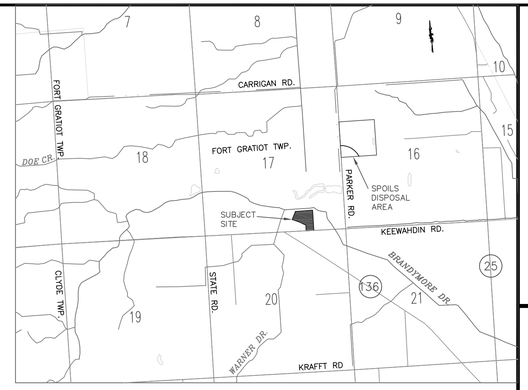


NOTE: SEE SHEET AS-1 FOR LEGEND & SEE SHEET C-6 FOR MORE SITE DETAILS



VICINITY MAP
NO SCALE

LEGAL DESCRIPTION:
74-20-768-0055-000
LOT 31 EXC E 8', LOTS 29 & 30, W 8' OF LOT 32 LYING N OF LOT 31 & THAT PART OF LOT 28 LYING E OF WARNER DRAIN SUPERVISOR'S TEEPLE PINE GROVE AVENUE PLAT EXEMPT
74-20-768-0056-000
E 8' OF LOT 31 & LOT 32 EXC W 8' LYING N OF LOT 31 SUPERVISOR'S TEEPLE PINE GROVE AVENUE PLAT

SITE PLAN DATA:

SUBJECT ZONING -	74-20-768-0055-000	R-1B RESIDENTIAL
	74-20-768-0056-000	R-1B RESIDENTIAL
ADJACENT ZONING	WEST	R-1B RESIDENTIAL
	EAST	R-1B RESIDENTIAL
	SOUTH	R-1B RESIDENTIAL
	NORTH	AG AGRICULTURAL
LAND USE:	MUNICIPAL	

LOT DIMENSIONS:	REQUIRED	PROVIDED
74-20-768-0055-000	8,400 SFT	119,647 SFT
74-20-768-0056-000	8,400 SFT	74,250 SFT
	TOTAL	193,897 (4.45 A)
BUILDING HEIGHT: REQUIRED MAX		35 FT
PROPOSED		35 FT

SETBACKS: PER SEC. 38-504 GOVERNMENT	REQUIRED	BUILDINGS PROVIDED
FRONT	50 FEET	136.80 FEET
REAR	50 FEET	221.18 FEET
SIDE	50 FEET	30 FEET *

* VARIANCE REQUIRED

SPECIAL PROVISIONS:
OFF-STREET PARKING PER SEC. 38-619

BUILDING SIZE:	18,962 SFT
PERCENT OF USE:	80%
PARKING REQUIREMENTS:	
PLANNED OFFICE MUNICIPAL	
(1 PER EACH 150 SFT USABLE SPACE)	15,170 SFT
102	102
FIRE HALL	
(1 PER EMPLOYEE PER SHIFT)	
4	4
HANDICAP ACCESSIBLE	
(1 PER 50 STANDARD PARKING SPACES)	
3	5

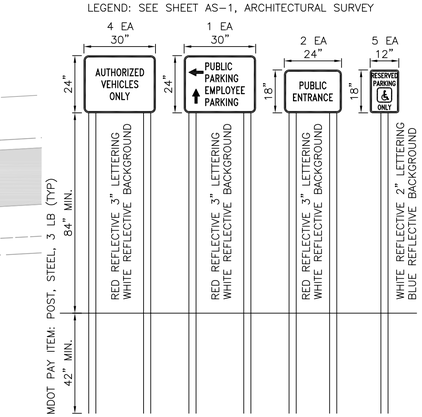
THIS AREA FOR SPECIAL DESIGN CONSIDERATIONS

SIGNAGE IS CONCEPTUAL AND SHALL BE ADDRESSED SEPARATELY AS SIGNAGE IS FINALIZED.

AMERICANS WITH DISABILITIES ACT (ADA) BARRIER FREE PARKING SYMBOL, NO PARKING, FIRE LANE, AND ALL OTHER SUCH SIGNAGE AND PAVEMENT MARKING SHALL COMPLY WITH THE LATEST COPYRIGHT OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS AND PAVEMENT MARKINGS SHALL BE PAID FOR LUMP SUM.

LEGEND: SEE SHEET AS-1, ARCHITECTURAL SURVEY



SIGN DETAILS
NOT TO SCALE

ALL SIGNS AND PAVEMENT MARKING SHALL CONFORM WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD)

HURON CONSULTANTS
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3720 KEEWAHDIN ROAD
FORT GRATIOT, MI 48059
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FAX: 810.385.9010

3 WORKING DAYS
800-482-7171
Know what's below.
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PROJECT NAME:
FORT GRATIOT CHARTER TOWNSHIP MUNICIPAL CENTER

SITE PLAN

PROJECT LOCATION:
SEC'S 16&17, T7N, R17E
FORT GRATIOT TOWNSHIP
SAINT CLAIR COUNTY

Drawn By: TDP
Checked By: SKS
Approved By: EJO

REVISIONS:
1. 2013-11-25
2. 2013-12-03
3. 2013-12-05
4. 2013-12-18
5. 2014-01-20
6. 2014-02-03
7. 2014-02-12
8. 2014-02-24 ADD 1

SCALE VERIFICATION:
0 0.5 1
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:
1"=30'

HC PROJECT NO:
13-10672

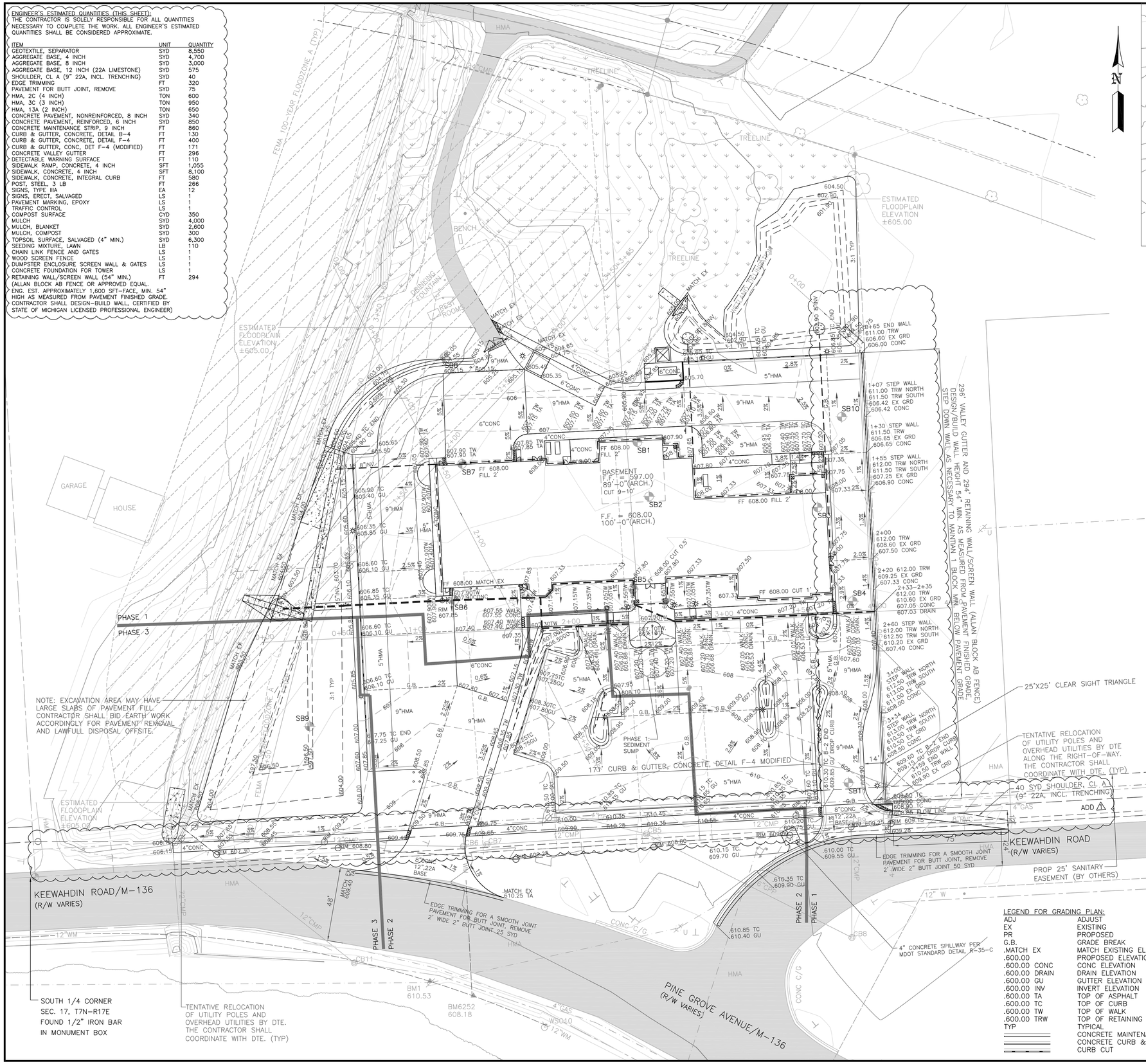
HC DRAWING NO:
13-10672SP

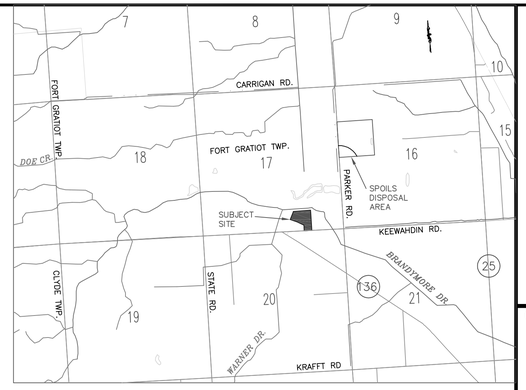
C-1

ENGINEER'S ESTIMATED QUANTITIES (THIS SHEET):
THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL QUANTITIES NECESSARY TO COMPLETE THE WORK. ALL ENGINEER'S ESTIMATED QUANTITIES SHALL BE CONSIDERED APPROXIMATE.

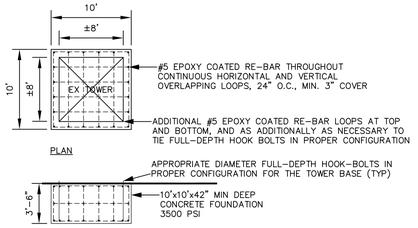
ITEM	UNIT	QUANTITY
GEOTEXTILE, SEPARATOR	SYD	8,550
AGGREGATE BASE, 4 INCH	SYD	4,700
AGGREGATE BASE, 8 INCH	SYD	3,000
AGGREGATE BASE, 12 INCH (22A LIMESTONE)	SYD	575
SHOULDER, CL A (9" 22A, INCL. TRENCHING)	SYD	40
EDGE TRIMMING	FT	320
PAVEMENT FOR BUTT JOINT, REMOVE	SYD	75
HMA, 2C (4 INCH)	TON	600
HMA, 3C (3 INCH)	TON	950
HMA, 13A (2 INCH)	TON	650
CONCRETE PAVEMENT, NONREINFORCED, 8 INCH	SYD	340
CONCRETE PAVEMENT, REINFORCED, 6 INCH	SYD	850
CONCRETE MAINTENANCE STRIP, 9 INCH	FT	860
CURB & GUTTER, CONCRETE, DETAIL B-4	FT	130
CURB & GUTTER, CONCRETE, DETAIL F-4	FT	400
CURB & GUTTER, CONC, DET F-4 (MODIFIED)	FT	171
CONCRETE VALLEY GUTTER	FT	296
DETECTABLE WARNING SURFACE	FT	110
SIDEWALK RAMP, CONCRETE, 4 INCH	SFT	1,055
SIDEWALK, CONCRETE, 4 INCH	SFT	8,100
SIDEWALK, CONCRETE, INTEGRAL CURB	FT	580
POST, STEEL, 3 LB	FT	266
SIGNS, TYPE IIIA	EA	12
SIGNS, ERECT, SALVAGED	LS	1
PAVEMENT MARKING, EPOXY	LS	1
TRAFFIC CONTROL	LS	1
COMPOST SURFACE	CYD	350
MULCH	SYD	4,000
MULCH, BLANKET	SYD	2,600
MULCH, COMPOST	SYD	300
TOPSOIL SURFACE, SALVAGED (4" MIN.)	SYD	6,300
SEEDING MIXTURE, LAWN	LB	110
CHAIN LINK FENCE AND GATES	LS	1
WOOD SCREEN FENCE	LS	1
DUMPSTER ENCLOSURE SCREEN WALL & GATES	LS	1
CONCRETE FOUNDATION FOR TOWER	LS	1
RETAINING WALL/SCREEN WALL (54" MIN.)	FT	294

(ALLAN BLOCK AB FENCE OR APPROVED EQUAL.
ENG. EST. APPROXIMATELY 1,600 SFT-FACE, MIN. 54" HIGH AS MEASURED FROM PAVEMENT FINISHED GRADE.
CONTRACTOR SHALL DESIGN-BUILD WALL, CERTIFIED BY STATE OF MICHIGAN LICENSED PROFESSIONAL ENGINEER)

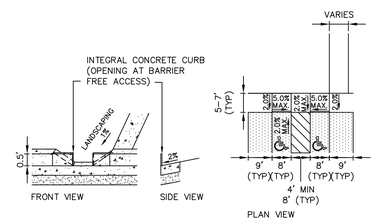




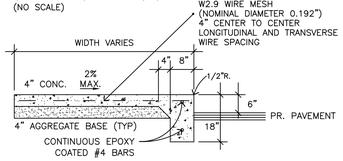
VICINITY MAP
NO SCALE



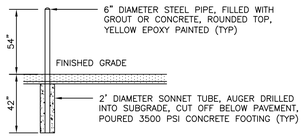
TOWER FOUNDATION DETAIL
NOT TO SCALE
CONTRACTOR SHALL FIELD VERIFY EXISTING TOWER BOLT CONFIGURATIONS AND SET APPROPRIATE DIAMETER FULL-DEPTH HOOK-BOLTS ACCORDINGLY FOR ANCHORING THE TOWER IN PLACE.
ALL GALVANIZED STEEL HARDWARE SHALL BE 36 KSI.



SIDEWALK RAMP-P
(MODIFIED) SR-P(M)
(NO SCALE)



MONOLITHIC CURB SIDEWALK DETAIL
(NO SCALE)



BOLLARD DETAIL
(NO SCALE)

LEGEND FOR GRADING PLAN:

ADJ	ADJUST
EX	EXISTING
PR	PROPOSED
G.B.	GRADE BREAK
.MATCH EX	MATCH EXISTING ELEVATION
.600.00	PROPOSED ELEVATION
.600.00 CONC	CONC ELEVATION
.600.00 DRAIN	DRAIN ELEVATION
.600.00 GU	GUTTER ELEVATION
.600.00 INV	INVERT ELEVATION
.600.00 TA	TOP OF ASPHALT
.600.00 TC	TOP OF CURB
.600.00 TW	TOP OF WALK
.600.00 TRW	TOP OF RETAINING WALL
TYP	TYPICAL
	CONCRETE MAINTENANCE STRIP
	CONCRETE CURB & GUTTER
	CURB CUT

NOTE: SEE SHEET AS-1 FOR LEGEND & SEE SHEET C-6 FOR MORE SITE DETAILS

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PROJECT NAME:
FORT GRATIOT CHARTER TOWNSHIP MUNICIPAL CENTER

GRADING PLAN

PROJECT LOCATION:
SEC'S 16&17, T7N, R17E
FORT GRATIOT TOWNSHIP
SAINT CLAIR COUNTY

Drawn By: TDP
Checked By: SKS
Approved By: EJO

REVISIONS:
1. 2013-11-25
2. 2013-12-03
3. 2013-12-05
4. 2013-12-18
5. 2014-01-20
6. 2014-02-03
7. 2014-02-12
8. 2014-02-24 ADD 1

SCALE VERIFICATION:
0 0.5 1
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:
1"=30'

HC PROJECT NO:
13-10672

HC DRAWING NO:
GP1

C-2

ENGINEER'S ESTIMATED QUANTITIES (THIS SHEET):
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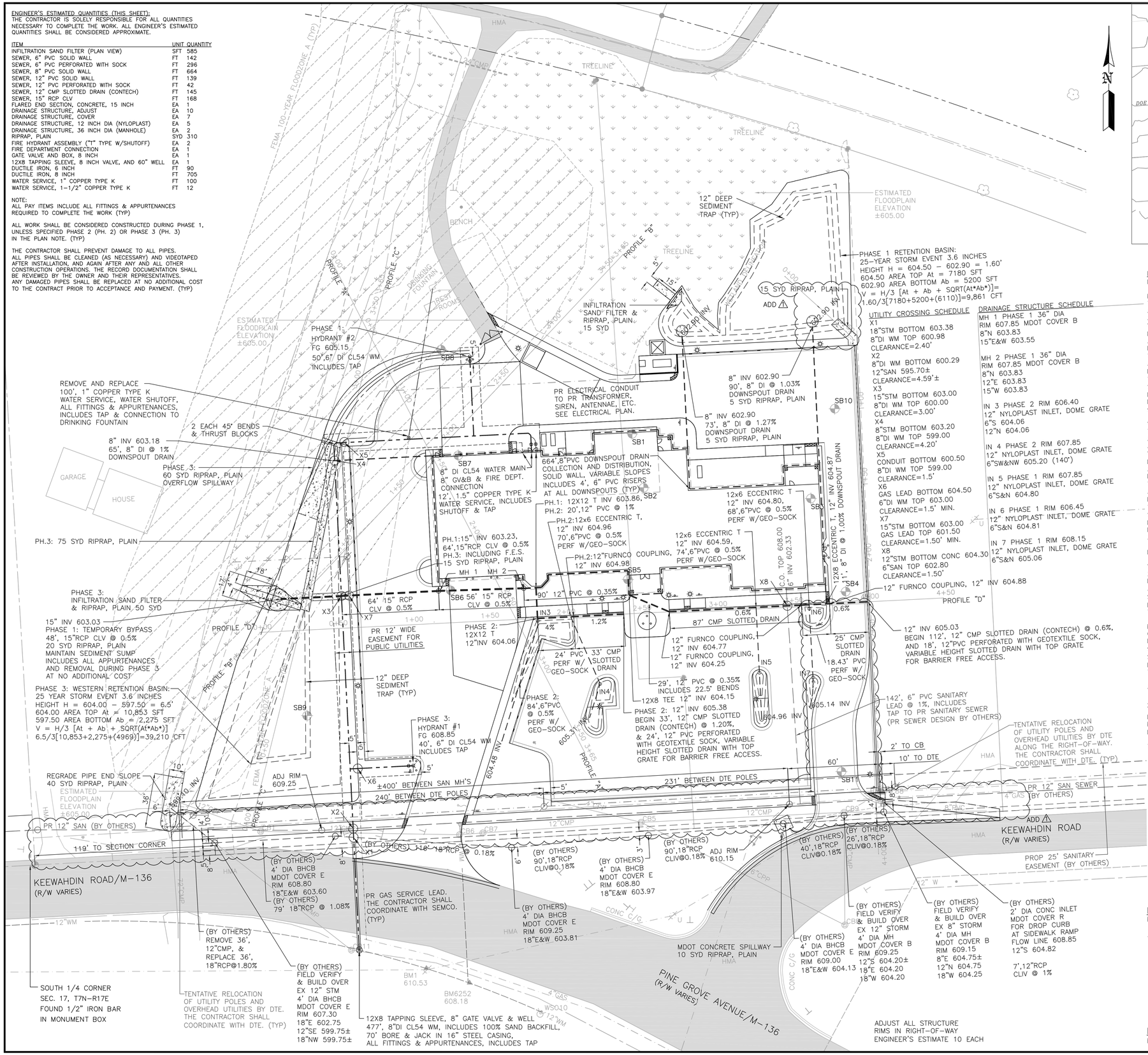
ITEM	UNIT	QUANTITY
INFILTRATION SAND FILTER (PLAN VIEW)	SFT	585
SEWER, 6" PVC SOLID WALL	FT	142
SEWER, 6" PVC PERFORATED WITH SOCK	FT	296
SEWER, 8" PVC SOLID WALL	FT	664
SEWER, 12" PVC SOLID WALL	FT	139
SEWER, 12" PVC PERFORATED WITH SOCK	FT	42
SEWER, 12" CMP SLOTTED DRAIN (CONTECH)	FT	145
SEWER, 15" RCP CLV	FT	168
FLARED END SECTION, CONCRETE, 15 INCH	EA	1
DRAINAGE STRUCTURE, ADJUST	EA	10
DRAINAGE STRUCTURE, COVER	EA	7
DRAINAGE STRUCTURE, 12 INCH DIA (NYLOPLAST)	EA	5
DRAINAGE STRUCTURE, 36 INCH DIA (MANHOLE)	EA	2
RIPRAP, PLAIN	SYD	310
FIRE HYDRANT ASSEMBLY ("T" TYPE W/SHUTOFF)	EA	2
FIRE DEPARTMENT CONNECTION	EA	1
GATE VALVE AND BOX, 8 INCH	EA	1
12X8 TAPPING SLEEVE, 8 INCH VALVE, AND 60" WELL	EA	1
DUCTILE IRON, 6 INCH	FT	90
DUCTILE IRON, 8 INCH	FT	705
WATER SERVICE, 1" COPPER TYPE K	FT	100
WATER SERVICE, 1-1/2" COPPER TYPE K	FT	12

NOTE:
ALL PAY ITEMS INCLUDE ALL FITTINGS & APPURTENANCES REQUIRED TO COMPLETE THE WORK (TYP)

ALL WORK SHALL BE CONSIDERED CONSTRUCTED DURING PHASE 1, UNLESS SPECIFIED PHASE 2 (PH. 2) OR PHASE 3 (PH. 3) IN THE PLAN NOTE. (TYP)

THE CONTRACTOR SHALL PREVENT DAMAGE TO ALL PIPES. ALL PIPES SHALL BE CLEANED (AS NECESSARY) AND VIDEOTAPED AFTER INSTALLATION, AND AGAIN AFTER ANY AND ALL OTHER CONSTRUCTION OPERATIONS. THE RECORD DOCUMENTATION SHALL BE REVIEWED BY THE OWNER AND THEIR REPRESENTATIVES. ANY DAMAGED PIPES SHALL BE REPLACED AT NO ADDITIONAL COST TO THE CONTRACT PRIOR TO ACCEPTANCE AND PAYMENT. (TYP)



PHASE 1 RETENTION BASIN:
25-YEAR STORM EVENT 3.6 INCHES
HEIGHT H = 604.50 - 602.90 = 1.60'
604.50 AREA TOP At = 7180 SFT
602.90 AREA BOTTOM Ab = 5200 SFT
V = H/3 [At + Ab + SQRT(At*Ab*)]=
1.60/3[7180+5200+(6110)]=9,861 CFT

UTILITY CROSSING SCHEDULE
X1
18"STM BOTTOM 603.38
8"DI WM TOP 600.98
CLEARANCE=2.40'
X2
8"DI WM BOTTOM 600.29
12"SAN 595.70±
CLEARANCE=4.59'±
X3
15"STM BOTTOM 603.00
8"DI WM TOP 600.00
CLEARANCE=3.00'
X4
8"STM BOTTOM 603.20
8"DI WM TOP 599.00
CLEARANCE=4.20'
X5
CONDUIT BOTTOM 600.50
8"DI WM TOP 599.00
CLEARANCE=1.5'
X6
GAS LEAD BOTTOM 604.50
6"DI WM TOP 603.00
CLEARANCE=1.5' MIN.
X7
15"STM BOTTOM 603.00
GAS LEAD TOP 601.50
CLEARANCE=1.50' MIN.
X8
12"STM BOTTOM CONC 604.30
6"SAN TOP 602.80
CLEARANCE=1.50'

DRAINAGE STRUCTURE SCHEDULE
MH 1 PHASE 1 36" DIA
RIM 607.85 MDOT COVER B
8"N 603.83
15"E&W 603.55

MH 2 PHASE 1 36" DIA
RIM 607.85 MDOT COVER B
8"N 603.83
12"E 603.83
15"W 603.83

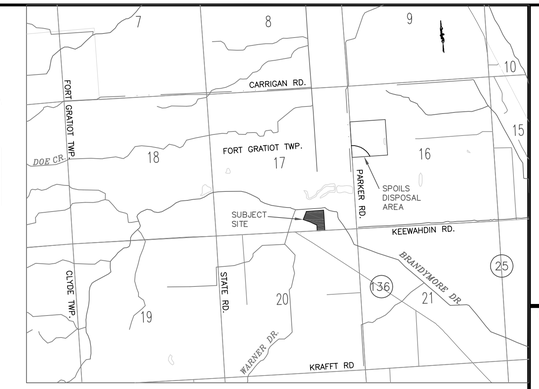
IN 3 PHASE 2 RIM 606.40
12" NYLOPLAST INLET, DOME GRATE
6"S 604.06
12"N 604.06

IN 4 PHASE 2 RIM 607.85
12" NYLOPLAST INLET, DOME GRATE
6"SW&NW 605.20 (140')

IN 5 PHASE 1 RIM 607.85
12" NYLOPLAST INLET, DOME GRATE
6"S&N 604.80

IN 6 PHASE 1 RIM 606.45
12" NYLOPLAST INLET, DOME GRATE
6"S&N 604.81

IN 7 PHASE 1 RIM 608.15
12" NYLOPLAST INLET, DOME GRATE
6"S&N 605.06



VICINITY MAP
NO SCALE

DRAINAGE CALCULATIONS
PER THE RULES OF THE ST. CLAIR COUNTY DRAIN COMMISSIONER (SCCDC)

NORTHEASTERN RETENTION BASIN:
TRIBUTARY AREA A = 0.67 ACRES
AREA IMPERVIOUS SURFACE A-imp = 0.42 ACRES, C = 0.90
AREA PERVIOUS SURFACE A-perv = 0.25 ACRES, C = 0.20
WEIGHTED C = 0.42*0.90 + 0.25*0.20 = 0.43/0.67 = 0.64
FIRST FLUSH VOLUME 1" OVER THE SITE: 0.67 ACRES = 2,433 CFT
ALTERNATE CALCULATION: 3630 * A * C = 3630 * 0.67 * 0.64 = 1,557 CFT
BANKFULL VOLUME: 8170 * C * A = 8170 * 0.67 * 0.64 = 3,504 CFT
100-YEAR DETENTION VOLUME:
ALLOWABLE DISCHARGE Qa = 0.15 CFS/ACRE * 0.67 ACRES = 0.10 CFS
INITIAL DISCHARGE Qo = Qa / A*C = 0.10 / 0.67*0.64 = 0.23 CFS
TIME OF CONCENTRATION Tc = -25 + SQRT(10,312.5/Qo) = 185.29 SEC
VOLUME PER IMPERVIOUS ACRE: Vs=16,500*Tc/(Tc+25)-40*Qo*Tc=12,834 CFT/AC-IMP
REQUIRED DETENTION VOLUME V = Vs * A * C = 12,834*0.67*0.64 = 5,504 CFT
PROPOSED STORAGE VOLUME = 9,861 CFT
9,861 CFT/0.67 ACRES/43,560 SFT/ACRE = 0.338 FT = 4.05 INCHES OVER THE SITE

WESTERN RETENTION BASIN:
TOTAL ONSITE TRIBUTARY AREA A = 2.95 ACRES
AREA IMPERVIOUS SURFACE A-imp = 2.00 ACRES, C = 0.90
AREA PERVIOUS SURFACE A-perv = 0.90 ACRES, C = 0.20
WEIGHTED C = 2.00*0.90 + 0.90*0.20 = 1.98/2.95 = 0.67
FIRST FLUSH VOLUME: 1" OVER THE SITE: 2.95 ACRES = 10,710 CFT
ALTERNATE CALCULATION: 3630 * A * C = 3630 * 2.9 * 0.67 = 7,175 CFT
BANKFULL VOLUME: 8170 * C * A = 8170 * 2.95 * 0.67 = 16,150 CFT
100-YEAR DETENTION VOLUME:
ALLOWABLE DISCHARGE Qa = 0.15 CFS/ACRE * 2.95 ACRES = 0.44 CFS
INITIAL DISCHARGE Qo = Qa / A*C = 0.44 / 2.95*0.67 = 0.22 CFS
TIME OF CONCENTRATION Tc = -25 + SQRT(10,312.5/Qo) = 191.50 SEC
VOLUME PER IMPERVIOUS ACRE: Vs=16,500*Tc/(Tc+25)-40*QoTc=12,910 CFT/AC-IMP
REQUIRED DETENTION VOLUME V = Vs * A * C = 12,910*2.95*0.67 = 25,517 CFT
PROPOSED STORAGE VOLUME = 39,210 CFT
39,210 CFT/2.95 ACRES/43,560 SFT/ACRE = 0.305 FT = 3.66 INCHES OVER THE SITE

PER MDEQ, SAND FILTER INFILTRATION FROM SURFACE WATER TO GROUND WATER:

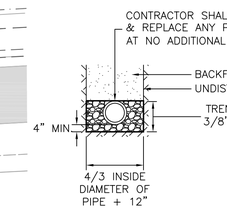
WESTERN RETENTION BASIN:
2.95 ACRES * 3.6 INCHES OVER SITE = 38,550 CFT
PROVIDED 39,210 CFT, INFILTRATE WITHIN 72 HOURS
39,210 CFT / 72 HOURS / 3,600 SEC/HR = 0.15 CFS
SAND K=10^3 GAL/DAY/SFT / 7.4808 GAL/CFT / 86,400 SEC/DAY = 0.0015 CFS/SFT
PLAN VIEW AREA OF SAND FILTER = 0.15 CFS / 0.0015 CFS/SFT = 101 SFT AVERAGE
TOTAL AREA = 2 * 101 = 202 SFT

NORTHEASTERN RETENTION BASIN:
0.67 ACRES * 3.6 INCHES OVER SITE = 8,756 CFT
PROVIDED 9,077 CFT, INFILTRATE WITHIN 72 HOURS
9,077 CFT / 72 HOURS / 3,600 SEC/HR = 0.035 CFS
SAND K=10^3 GAL/DAY/SFT / 7.4808 GAL/CFT / 86,400 SEC/DAY = 0.0015 CFS/SFT
PLAN VIEW AREA OF SAND FILTER = 0.035 CFS / 0.0015 CFS/SFT = 23 SFT AVERAGE
TOTAL AREA = 2 * 23 = 46 SFT

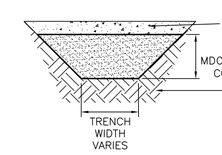
ALTERNATE FOR PIPE DISCHARGE:

ALLOWABLE DISCHARGE Qa = 0.15 CFS/ACRE * 2.95 ACRES = 0.44 CFS
WESTERN DETENTION BASIN TO WARNER DRAIN REQUIRED 0.34 CFS,
PROVIDED 43' OF 6"PVC @ 0.20% Q = 0.33 CFS
NORTHEASTERN RAIN GARDENS TO WETLANDS REQUIRED 0.10 CFS,
PROVIDED 8' OF 4"PVC @ 0.20% Q = 0.11 CFS

TOTAL RESTRICTED DISCHARGE: 0.33 CFS + 0.11 CFS = 0.44 CFS



DOWNSPOUT DRAIN/UNDER DRAIN DETAIL
NOT TO SCALE



INFILTRATION SAND FILTER DETAIL
NOT TO SCALE

NOTE: SEE SHEET AS-1 FOR LEGEND & SEE SHEET C-6 FOR MORE SITE DETAILS

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3811 24th Ave, Suite A
Fort Gratiot, MI 48059
TEL: (810) 966-0680
FAX: (810) 966-0681
www.huronconsultants.com

CLIENT NAME:
FORT GRATIOT CHARTER TOWNSHIP
3720 KEEWAHDIN ROAD
FORT GRATIOT, MI 48059
TEL: 810.385.4489
FAX: 810.385.9010

3 WORKING DAYS
800-482-7171
811
Know what's below.
Call before you dig.

PRIOR TO CONSTRUCTION, ALL EXISTING UTILITIES LOCATION AND DEPTH WITHIN THE PROJECT AREA SHALL BE FIELD VERIFIED. CALL MISS DIG SYSTEM 3 WORKING DAYS PRIOR TO CONSTRUCTION.

UTILITY INFORMATION SHOWN ON THIS DRAWING ARE APPROXIMATE AND MAY BE ACCORDING TO AVAILABLE RECORD OR DISCLOSED INFORMATION BY VARIOUS UTILITY COMPANIES, PUBLIC AGENCIES, OR OTHER SOURCES AND THUS MAY NOT NECESSARILY REFLECT ACTUAL FIELD LOCATIONS AND NO GUARANTEE IS GIVEN TO COMPLETENESS OR ACCURACY.

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PROJECT NAME:
FORT GRATIOT CHARTER TOWNSHIP MUNICIPAL CENTER

UTILITY PLAN

PROJECT LOCATION:
SEC'S 16&17, T7N, R17E
FORT GRATIOT TOWNSHIP
SAINT CLAIR COUNTY

Drawn By: TDP
Checked By: SKS
Approved By: EJO

REVISIONS:
1. 2013-11-25
2. 2013-12-03
3. 2013-12-05
4. 2013-12-18
5. 2014-01-20
6. 2014-02-03
7. 2014-02-12
8. 2014-02-24 ADD 1

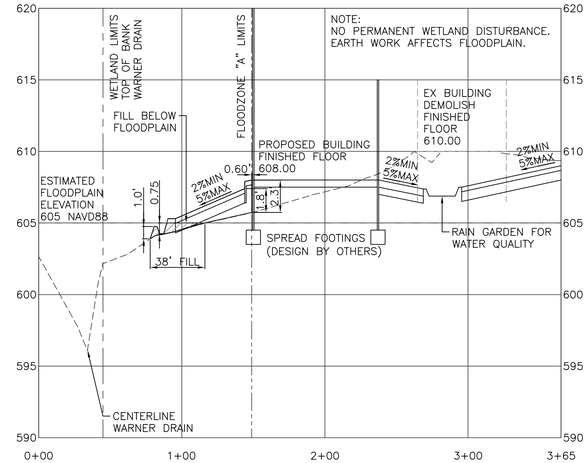
SCALE VERIFICATION:
0 0.5 1
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:
1"=30'

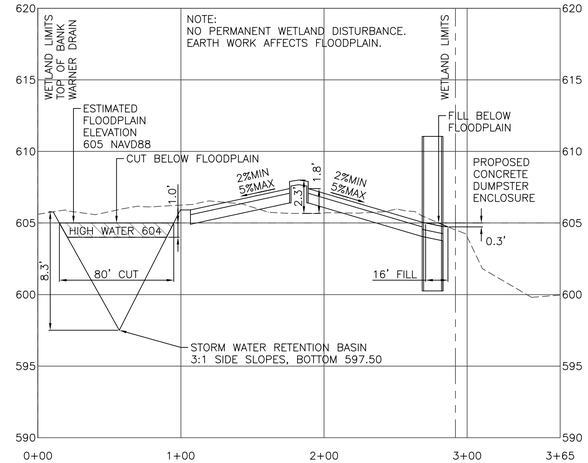
HC PROJECT NO:
13-10672

HC DRAWING NO:
UP1

C-3



FLOODZONE "A" PROFILE "A"



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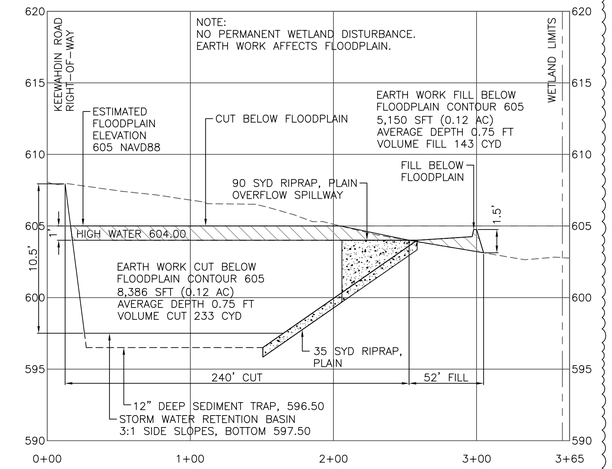

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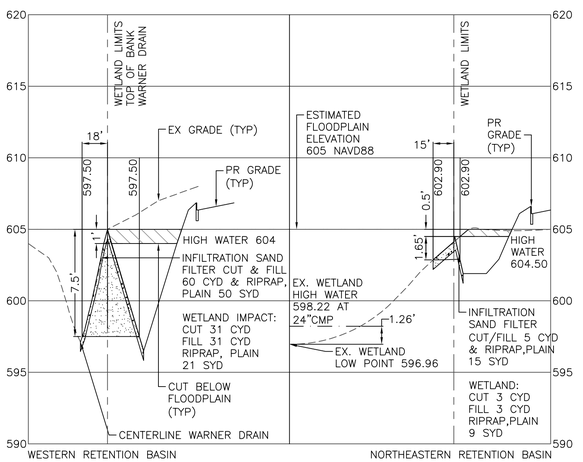
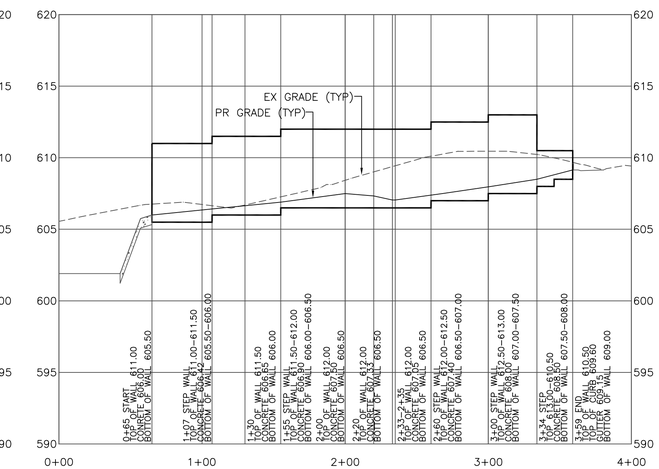


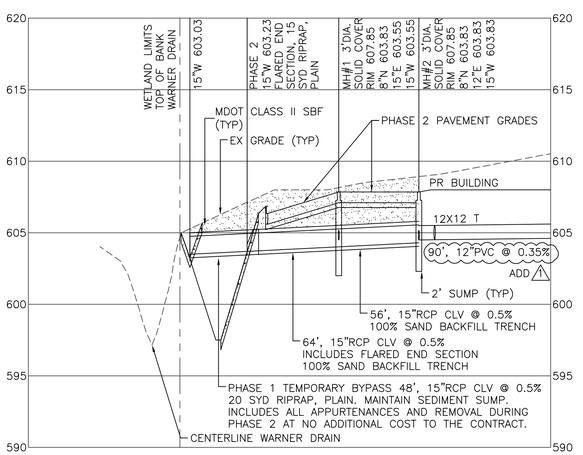
WESTERN RETENTION BASIN

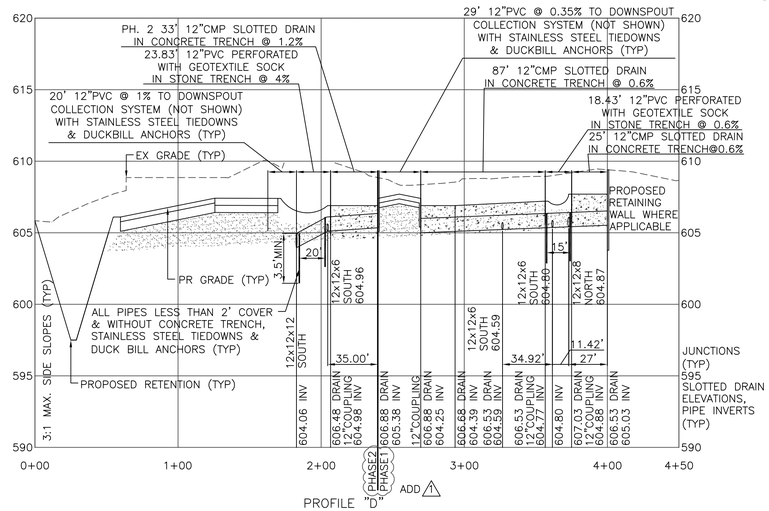


NORTHEASTERN RETENTION BASIN

RETAINING WALL/SCREEN WALL DETAIL

ADD 1





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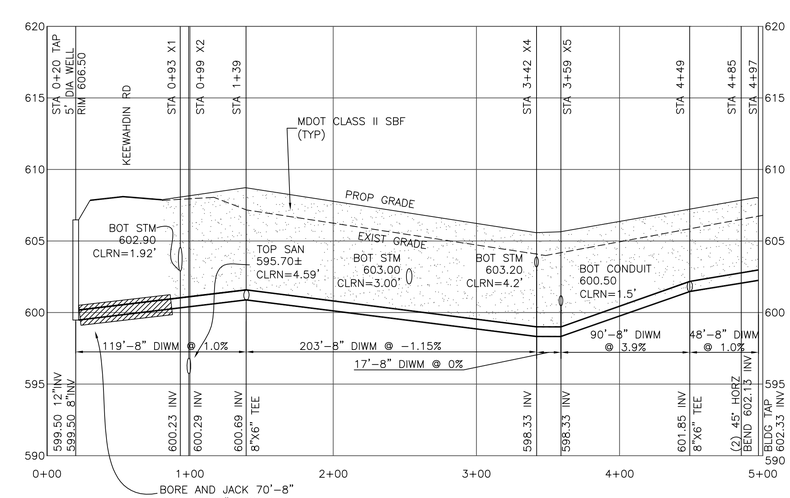

WATERMAIN PROFILE
477' WATERMAIN

HURON CONSULTANTS
ENGINEERS & SCIENTISTS

3811 24th Ave, Suite A
Fort Gratiot, MI 48059
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PROJECT NAME:
FORT GRATIOT CHARTER TOWNSHIP MUNICIPAL CENTER

UTILITY PROFILES & CROSS-SECTIONS

PROJECT LOCATION:
SEC'S 16&17, T7N, R17E
FORT GRATIOT TOWNSHIP
SAINT CLAIR COUNTY

Drawn By: TDP
Checked By: SKS
Approved By: EJO

REVISIONS:
1. 2013-11-25
2. 2013-12-03
3. 2013-12-05
4. 2013-12-18
5. 2014-01-20
6. 2014-02-03
7. 2014-02-12
8. 2014-02-24 ADD 1

SCALE VERIFICATION:
0 0.5 1
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:
1"=50'H
1"=5'V

HC PROJECT NO:
13-10672

HC DRAWING NO:
13-10672PP

C-5

GENERAL NOTES

ALL WORK SHALL COMPLY WITH THE STANDARDS AND SPECIFICATIONS OF ALL LOCAL, COUNTY, STATE OR FEDERAL REGULATORY AGENCIES HAVING JURISDICTION OVER THE WORK, WHETHER OR NOT SPECIFIED HEREIN, INCLUDING BUT NECESSARILY LIMITED TO THE FORT GRATIOT CHARTER TOWNSHIP, ST. CLAIR COUNTY DRAIN COMMISSIONER, ST. CLAIR COUNTY HEALTH DEPARTMENT, ST. CLAIR COUNTY ROAD COMMISSION, MICHIGAN DEPARTMENT OF TRANSPORTATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, OR ANY OTHERS AS APPLICABLE.

INDEMNIFICATION:
THE CONTRACTOR SHALL HOLD HARMLESS AND INDEMNIFY AND KEEP INDEMNIFIED EACH INDIVIDUAL PARTY OR AGENCY: FORT GRATIOT CHARTER TOWNSHIP, CHMP, INC., HURON CONSULTANTS, ST. CLAIR COUNTY DRAIN COMMISSIONER, ST. CLAIR COUNTY HEALTH DEPARTMENT, ST. CLAIR COUNTY ROAD COMMISSION, MICHIGAN DEPARTMENT OF TRANSPORTATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, AND ANY OTHER LOCAL, COUNTY, STATE OR FEDERAL REGULATORY AGENCIES HAVING JURISDICTION OVER THE WORK, THEIR EMPLOYEES, CONSULTANTS, ENGINEERS, ARCHITECTS, INSPECTORS, LEGAL COUNSEL, OR ANY OTHER ASSIGNS OR REPRESENTATIVES, FROM ALL CLAIMS, SUITS OR DAMAGE TO THE PROPERTY, INCLUDING PROPERTY OF SAID AGENCY OR ITS SAID REPRESENTATIVES, WHETHER DUE TO THE NEGLIGENCE OF THE CONTRACTOR, OR THE JOINT NEGLIGENCE OF THE CONTRACTOR AND THEIR SUBCONTRACTORS AND ANY SAID AGENCY OR ITS SAID REPRESENTATIVES, ARISING OUT OF THE WORK UNDER THIS CONTRACT, OR IN CONNECTION WITH WORK NOT AUTHORIZED BY THE ISSUED CONTRACT, OR RESULTING FROM FAILURE TO COMPLY WITH THE TERMS OF THE CONTRACT, OR ARISING OUT OF THE CONTINUED EXISTENCE OF THE WORK PRODUCT WHICH IS THE SUBJECT OF THE CONTRACT.

SURVEY:
TOPOGRAPHIC AND UTILITY INFORMATION SHOULD BE CONSIDERED APPROXIMATE, AND NOT NECESSARILY INDICATIVE OF REAL-WORLD CONDITIONS. SURVEY INFORMATION PROVIDED BY BMJ ENGINEERS & SURVEYORS, INC. APPROXIMATED UTILITIES AND FACILITIES SHOWN WITHIN THESE PLANS HAVE BEEN MAPPED THROUGH TOPOGRAPHIC SURVEY OF SURFACE CONDITIONS, AND COMPILATION OF RECORD DOCUMENTS. ACCURACY OR COMPLETENESS IS NEITHER GUARANTEED NOR IMPLIED. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND DEPTHS OF ALL FACILITIES PRIOR TO EXCAVATION AND CONSTRUCTION. ANY CONFLICTS MUST BE REPORTED TO THE ENGINEER IMMEDIATELY FOR DIRECTION.

MISS DIG:
THE PERMIT HOLDER MUST COMPLY WITH THE REQUIREMENTS OF ACT 53 OF PUBLIC ACTS OF 1974, AS AMENDED. CALL MISS DIG AT (800) 482-7171 AT LEAST THREE (3) FULL WORKING DAYS (EXCLUDING SATURDAYS AND SUNDAYS), BUT NOT MORE THAN TWENTY-ONE (21) CALENDAR DAYS, BEFORE YOU START WORK. PERMIT HOLDER ASSUMES ALL RESPONSIBILITY FOR DAMAGE TO OR INTERRUPTION OF UNDERGROUND UTILITIES.

PERMITS:
THE CONTRACTOR IS RESPONSIBLE TO ASSURE ALL PERMIT ACQUISITIONS AND FEES ARE IN COMPLIANCE FOR ALL PERTINENT JURISDICTIONAL AGENCIES.

BACKFILL:
SUITABLE FILL MATERIAL SHALL BE PLACED IN 12-INCH MAXIMUM LIFTS COMPACTED TO 95% MAXIMUM UNIT DENSITY BY MODIFIED PROCTOR ANALYSIS. UTILITY TRENCHES WITHIN 3 FEET AND A 1 ON 1 ZONE OF INFLUENCE OF ALL PAVEMENT, AS REFERENCED FROM BACK OF CURB OR EDGE OF PAVEMENT, SHALL BE BACKFILLED WITH MDOT CL II GRANULAR MATERIAL (OR EQUAL AS APPROVED BY THE MUNICIPAL AGENCY HAVING JURISDICTION OVER THE SUBJECT UTILITY) IN 12-INCH MAXIMUM LIFTS COMPACTED TO 95% MAXIMUM DENSITY BY MODIFIED PROCTOR ANALYSIS.
NOTIFICATION OF START AND COMPLETION OF WORK. PERMIT HOLDER MUST NOTIFY ALL SAID AGENCIES AT LEAST FIVE (5) DAYS, EXCLUDING WEEKENDS AND HOLIDAYS, BEFORE STARTING WORK AND MUST NOTIFY THE SAID AGENCIES WHEN WORK IS COMPLETED.

TIME RESTRICTIONS:
THE CONTRACTOR SHALL COMPLETE THE WORK WITHIN THE ALLOTTED CONTRACT TIME LIMIT, REGARDLESS OF OVERTIME, WEEKENDS AND/OR HOLIDAYS TO ACCOMMODATE THE SCHEDULE, WITHOUT ADDITIONAL COMPENSATION. ALL WORK SHALL BE PERFORMED WEEKDAYS, WEEKENDS AND HOLIDAYS AS APPROVED BY THE AGENCIES HAVING JURISDICTION, INCLUDING BUT NOT NECESSARILY LIMITED TO FORT GRATIOT CHARTER TOWNSHIP.

SAFETY:
CONTRACTOR AGREES TO WORK UNDER THE CONTRACT IN A SAFE MANNER AND TO KEEP THE AREA AFFECTED BY THE CONTRACT IN A SAFE CONDITION UNTIL THE WORK IS COMPLETED. ALL WORK SITE CONDITIONS SHALL COMPLY WITH THE 2005 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AS AMENDED. THE CONTRACTOR SHALL USE ORANGE CONSTRUCTION FENCE AS REQUIRED TO ADEQUATELY PROTECT EXISTING AREAS AND SAFELY SEPARATE THE GENERAL PUBLIC FROM CONSTRUCTION ACTIVITIES. SAID CONSTRUCTION FENCE SHALL BE DAILY MONITORED AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

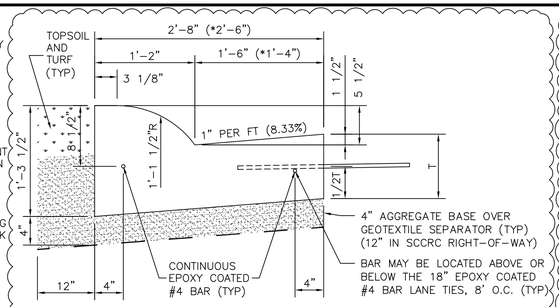
SIGNAGE:
ALL TEMPORARY AND PERMANENT SIGNAGE SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND AS FURTHER FIELD DIRECTED.

SEQUENCE OF CONSTRUCTION:
THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER CONSTRUCTION ACTIVITIES, AND ALLOT FOR MULTIPLE MOBILIZATIONS AND DEMOBILIZATIONS FOR EACH STAGE OF CONSTRUCTION, INCLUDING BUT NOT NECESSARILY LIMITED TO DEMOLITION, CONCRETE WORK, PAVING, AND/OR RESTORATION, WITHOUT ADDITIONAL COMPENSATION.

CONCRETE SIDEWALK RAMP:
SIDEWALK RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, OR CURRENT EDITION, AND THE CURRENT EDITION OF MDOT STANDARD PLANS R-28-H SIDEWALK RAMP AND DETECTABLE WARNING DETAILS, AND CONCRETE SIDEWALKS PER STANDARD PLANS R-29-H DRIVEWAY PLANS AND DETAILS. SIDEWALKS IN RIGHT-OF-WAYS ARE SUBJECT TO ST. CLAIR COUNTY ROAD COMMISSION STANDARDS.

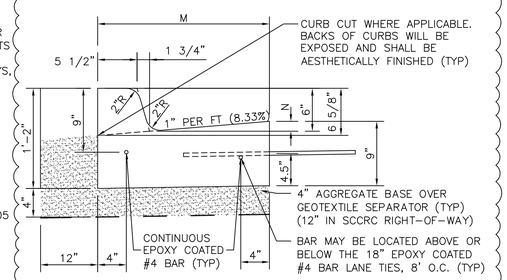
CONCRETE CURB & GUTTER:
CONCRETE CURB & GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, OR CURRENT EDITION, AND THE CURRENT EDITION OF MDOT STANDARD PLANS R-30-F CONCRETE CURB AND CONCRETE CURB & GUTTER, AND APPROACHES PER STANDARD PLANS R-29-H DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK, MODIFIED TO THE SITE CONDITIONS AS ILLUSTRATED IN THESE PLANS AND DETAILS.

AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE:
CONTRACTOR SHALL SOLELY BE RESPONSIBLE TO PROVIDE WORK FOR THIS CONTRACT, INCLUDING BUT NECESSARILY LIMITED TO BARRIER FREE AND ALL OTHER APPLICABLE ACCESSIBILITY IN CONFORMANCE WITH 28 CFR PART 36, AMERICANS WITH DISABILITIES ACT, OR ANY OTHER CURRENT PERTINENT STANDARDS AND SPECIFICATIONS.



DETAIL	DIMENSION	LANE TIES	CONCRETE	CONCRETE
TYPE	T		CYD/LFT	CYD/LFT
B1	9"	AS SHOWN	0.0900	(*0.0855)
B2	9"	OMITTED	0.0900	(*0.0855)
B3	10"	AS SHOWN	0.0941	(*0.0894)

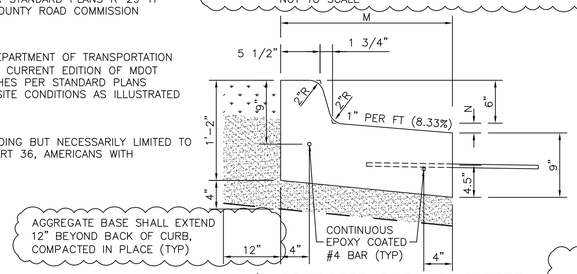
CONCRETE CURB & GUTTER
TYPE B DETAIL
NOT TO SCALE



DETAIL	DIMENSION		LANE TIES	CONCRETE
TYPE	M	N		CYD/LFT
F1	1'-6"	7/8"	AS SHOWN	0.0484
F2	1'-6"	7/8"	OMITTED	0.0484
F3	2'-0"	1 3/8"	AS SHOWN	0.0610
F4	2'-0"	1 3/8"	OMITTED	0.0610
F5	2'-6"	1 7/8"	AS SHOWN	0.0737
F6	2'-6"	1 7/8"	OMITTED	0.0737

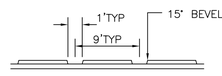
CONCRETE CURB & GUTTER
TYPE F DETAIL
NOT TO SCALE

ADD △1

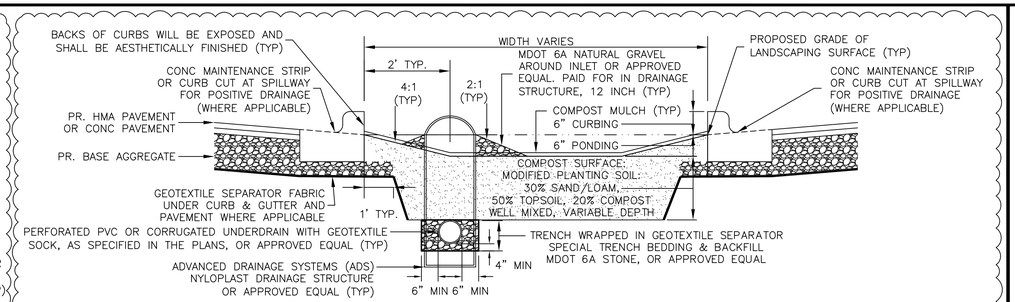


ADD △1

CONCRETE CURB & GUTTER, MODIFIED
TYPE F MODIFIED DETAIL
NOT TO SCALE

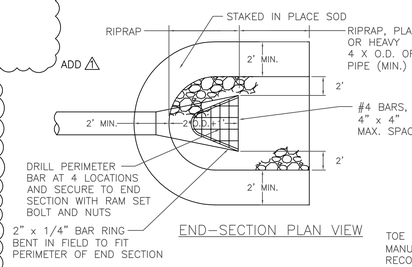


CONCRETE CURB CUT DETAIL
NOT TO SCALE
PAID FOR IN CURB & GUTTER, CONCRETE, DETAIL F-4

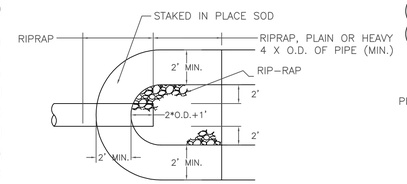


RAIN GARDEN AND BIORETENTION SWALE CROSS SECTION DETAIL
NO SCALE

ADD △1

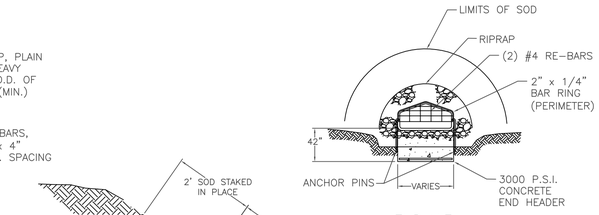


END-SECTION PLAN VIEW

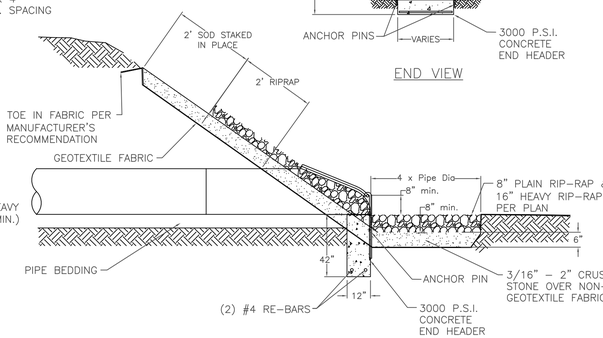


PLAN VIEW

NOTE:
MINIMUM REQUIREMENTS FOR RIP-RAP MATERIAL SHALL MEET MDOT SPECIFICATION 813.03 UNLESS OTHERWISE SPECIFIED



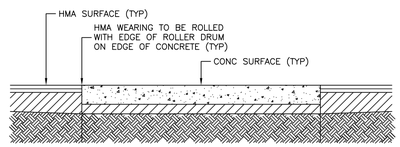
END VIEW



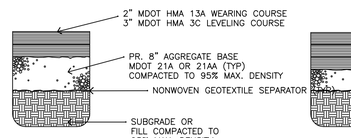
PROFILE VIEW

NOTE:
BAR SCREEN DETAILS PER MDOT ROAD & BRIDGE STANDARD PLANS, STEEL GRATES FOR END SECTIONS, BARS ARE TO BE CUT OFF AT EDGE OF END SECTION.

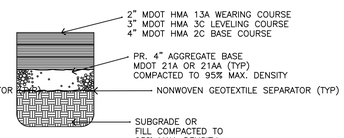
OUTLET RIP-RAP DETAIL
(END SECTION AND BAR SCREEN AS APPLICABLE)
NOT TO SCALE



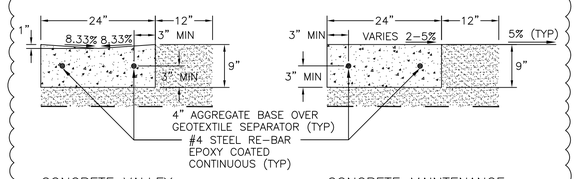
Concrete-HMA Joint Detail
(No Scale)



5" Hot Mix Asphalt (HMA) Detail
(Parking Spaces Only)
(No Scale)



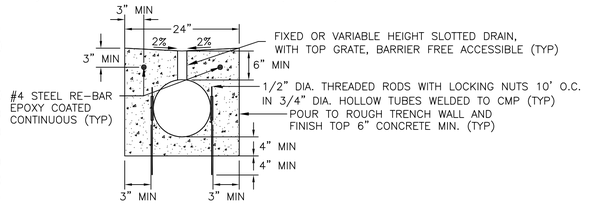
9" Hot Mix Asphalt (HMA) Detail
(Heavy Traffic Only)
(No Scale)



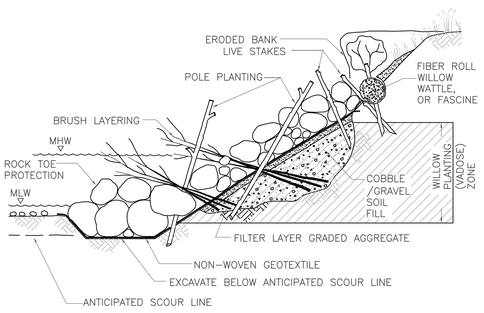
CONCRETE VALLEY GUTTER DETAIL (N.T.S.)

CONCRETE MAINTENANCE STRIP DETAIL (N.T.S.)

ADD △1



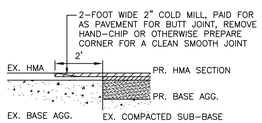
CONTECH SLOTTED DRAIN
CONCRETE TRENCH DETAIL (N.T.S.)



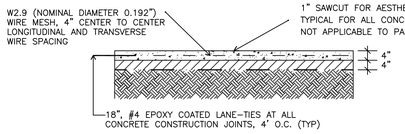
NOTE:
1. WILLOW AND/OR RED OSIER DOGWOOD POLE PLANTINGS, LIVE STAKES AND BRUSH LAYERING SHALL BE INSTALLED DURING BANK GRADING AND RIPRAP PLACEMENT TO ENSURE GOOD CONTACT WITH 'NATIVE GROUND' AND SOIL FILL.
2. WILLOW AND/OR RED OSIER DOGWOOD POLES PLANTINGS, LIVE STAKES AND BRUSH LAYERING SHALL EXTEND DOWN INTO EXPECTED SOIL MOISTURE ZONES (VADOSE ZONES).
3. CUT SMALL HOLES OR SLITS IN FILTER FABRIC AS NECESSARY.
4. PLACE SOIL FILL (COBBLES, GRAVEL, SOIL) AROUND CUTTINGS.
5. PLACE RIPRAP CAREFULLY, DO NOT END DUMP. SOME DAMAGE TO POLE PLANTINGS, LIVE CUTTINGS,, AND BRUSH LAYERS IS UNAVOIDABLE AND ACCEPTABLE. DEEPLY PLANTED MATERIAL WILL REGENERATE.
6. MLW = MEAN LOW WATER.
7. MHW = MEAN HIGH WATER.
8. GRADE BANK TO 1.5:1 OR FLATTER.

VEGETATED RIPRAP
NOT TO SCALE

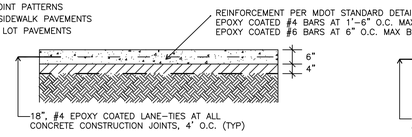
NOTE:
ALL RIPRAP IN DRAINS, STREAMS, AND WETLANDS SHALL BE VEGETATED RIPRAP DETAIL (TYP)



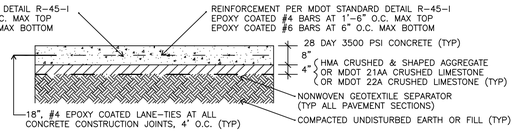
Butt Joint Detail
(NO SCALE)



4" Concrete Pavement Detail
(No Scale)



6" Concrete Pavement Detail
(No Scale)



8" Concrete Pavement Detail
(No Scale)

NOTE: PER SCCRC STANDARDS, 8" CONCRETE PAVEMENT IN RIGHT-OF-WAY SHALL NOT HAVE STEEL REINFORCEMENT. AGGREGATE BASE SHALL BE 12" 22A LIMESTONE OVER GEOTEXTILE. ADD △1

HURON CONSULTANTS
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CLIENT NAME:
FORT GRATIOT CHARTER TOWNSHIP
3720 KEEWAHDIN ROAD
FORT GRATIOT, MI 48059
TEL: 810.385.4489
FAX: 810.385.9010

3 WORKING DAYS
800-482-7171
Know what's below. Call before you dig.

PRIOR TO CONSTRUCTION, ALL EXISTING UTILITIES LOCATION AND DEPTH WITHIN THE PROJECT AREA SHALL BE FIELD VERIFIED. CALL MISS DIG SYSTEM 3 WORKING DAYS PRIOR TO CONSTRUCTION.

UTILITY INFORMATION SHOWN ON THIS DRAWING ARE APPROXIMATE AND MAY BE ACCORDING TO AVAILABLE RECORD OR DISCLOSED INFORMATION BY VARIOUS UTILITY COMPANIES, PUBLIC AGENCIES, OR OTHER SOURCES AND THUS MAY NOT NECESSARILY REFLECT ACTUAL FIELD LOCATIONS AND NO GUARANTEE IS GIVEN TO COMPLETENESS OR ACCURACY.

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PROJECT NAME:
FORT GRATIOT CHARTER TOWNSHIP MUNICIPAL CENTER

SITE DETAILS

PROJECT LOCATION:
SEC'S 16&17, T7N, R17E
FORT GRATIOT TOWNSHIP
SAINT CLAIR COUNTY

Drawn By: TDP
Checked By: SKS
Approved By: EJO

REVISIONS:
1. 2013-11-25
2. 2013-12-03
3. 2013-12-05
4. 2013-12-18
5. 2014-01-20
6. 2014-02-03
7. 2014-02-12
8. 2014-02-24 ADD △1

SCALE VERIFICATION:
0 0.5 1
BAR IS ONE-INCH
ADJUST SCALES ACCORDINGLY IF NOT

SCALE:
NO SCALE

HC PROJECT NO:
13-10672

HC DRAWING NO:
DT1

C-6

BEAM & ANGLE SCHEDULE

MARK	SIZE	REMARKS
A1	STEEL PLATE 3/8" x12" CONT.	WITH 1/2"Φ x 6" LONG HEADED STUDS AT 24" O.C.
A2	STEEL BENT PLATE 3/8" x6" x7 5/8" L.L.H.	WITH 1/2"Φ x 6" LONG HEADED STUDS AT 24" O.C.
A3	¼ 3 x 3 x 3/16 CONT.	REFER TO DETAIL 10 / S-3
B-1	3 1/2" x 11 7/8" LVL BEAM	REFER TO DETAIL X / S-X
B-2	W 12 x 16	T.O.S. ELEV. = 110'-5"
B-3	W 14 x 48	T.O.S. ELEV. = 99'-6

BEARING PLATE SCHEDULE

MARK	SIZE	ANCHORS	DETAIL
BP1	1/2" x6"W x12"L	(2) 1/2" DIA. x6" LONG HEADED STUDS	11 / S-3
BP2	1/2" x5 1/2" x12"	(2) 1/2" DIA. x6" LONG HEADED STUDS AT 8" O.C.	9 / S-3
BP3	3/8" x 5 1/2" x 12"	(2) 1/2" DIA. x6" LONG HEADED STUDS AT 8" O.C.	11 / S-3
BP4	NOT USED		
BP5	3/8" x 6" x 6"	(1) 1/2" DIA. x6" LONG HEADED STUDS AT 8" O.C.	11 / S-3

HEADER SCHEDULE

MARK	SIZE	DETAIL	REMARKS
H-1	(3) 2x10's	4 / S-4	
H-2	(3) 2x12's	3 / A-16	
H-3	(3) 1 1/2" x 11 7/8" LVL BEAMS	4 / S-4	DOUBLE STUD BEARING EACH END

COLUMN SCHEDULE (REFER TO SHEET S-1)

MARK	SIZE	REMARKS
C-1	HHS 4 X 4 X 1/4	BASE PLATE SIZE 1/2" X 12" X 12"
C-2	1.8E PARALLAM PSL 5 1/4" x 7" COLUMN	METAL TRUSS CONNECTION BRACKET BY TRUSS MANUFACTURER
C-3	6X6 TREATED WOOD POST	REFER TO DETAILS 1, 2, & 3 ON S-4

GENERAL NOTES

1. GROUT CONCRETE MASONRY SOLID MINIMUM (3) COURSES BELOW ALL JOISTS, BEAMS, AND STEEL BEARING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL MISCELLANEOUS STEEL FOR TOILET PARTITION SUPPORTS.
3. EXTERIOR LOAD BEARING STUD WALLS: 2X6 WOOD STUDS @ 16" O.C. (ALL EXTERIOR WALLS U.N.O.) (INTERIOR STUDS ONLY WITH GYPSUM BOARD) PROVIDE LATERAL BRIDGING AT 4'-0" O.C. MAX. REFER TO SECTION 06 10 00 ROUGH FRAMING FOR ADDITIONAL INFORMATION.
4. INSTALL BRIDGING PER THE TRUSS MANUFACTURERS RECOMMENDATION.
5. EXTERIOR LOAD BEARING MASONRY WALLS AT APPARATUS BAY SHALL BE 12" C.M.U. W/HORIZONTAL REINFORCING SPACED 16" O.C. AND VERTICAL REINFORCING No. 5 REBAR SPACED 48" O.C. IN SOLID GROUT CELLS. PROVIDE MASONRY BOND BEAM WHERE INDICATED ON DETAILS.
6. REFER TO SHEET S-1 FOR COLUMN SCHEDULE.
7. REFER TO SHEET S-5 FOR GENERAL STRUCTURAL NOTES.
8. REFER TO SHEET S-3 AND S-4 FOR TYPICAL DETAILS.
9. REFER TO SHEET S-3 FOR MASONRY WALL REINFORCING AND TYPICAL MASONRY DETAILS.
10. ⟶ INDICATES SPAN DIRECTION OF 3" CONC. SLAB ON 9/16" 22 GAUGE FLOOR DECK - REFER TO "GENERAL NOTES" ON SHEET S-5 FOR ADDITIONAL INFORMATION AND DETAIL X ON SHEET S-X.

STEEL LINTEL SCHEDULE

MARK	SIZE	DETAIL	REMARKS
L-1	PRECAST CONCRETE MASONRY LINTEL W/ (2) No. 5 REBAR - 8" BEARING EACH END	3 / S-3	OPTIONAL DOUBLE GALVANIZED (2)4"x3 1/2"x5/16" L.L.V. STEEL ANGLE FOR INTERIOR 8" C.M.U. LINTEL AT 3'-4" M.O. (MAX. SIZE) - PAINT
L-2	HSS 12" x 12" x 3/16" STEEL TUBE	1 / A-17	LINTEL FOR DOOR OPENING @ APPARATUS BAY PROVIDE 8" BEARING W/ 1/2" Φ x 6" LONG STUDS - SET IN SOLID GROUT
L-3	W 12 x 40 W/ 11 1/4" x 5/16" STEEL PLATE	1 / A-17	LINTEL FOR WINDOW OPENING @ APPARATUS BAY PROVIDE 6" x 10" x 1/2" BRG PLATE W/ (2) 1/2" Φ x 6" LONG STUD ANCHORS IN SOLID GROUT CELLS

ROOF DESIGN LOADING

ROOF	P.S.F.
LIVE (SNOW) LOAD	21.0
ROOF SHINGLES	3.0
SHEATHING	1.5
INSULATION	1.0
GYPSUM BOARD	3.0
TRUSS	5.0
MISCELLANEOUS	7.5
TOTAL LOAD	42.0

WIND DESIGN LOADING

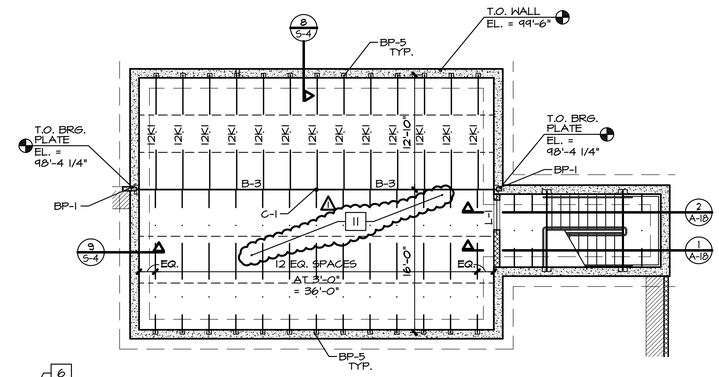
BASIC WIND SPEED 90 MPH
EXPOSURE 'B'
COMPONENTS + CLADDING = 18 PSF

ABBREVIATIONS

T.O.P. - TOP OF PLATE
T.O.S. - TOP OF STEEL
EL. - ELEVATION
B.O.S. - BOTTOM OF STEEL
GT - GIRDER TRUSS
RT - RIDGE TRUSS

PLAN REFERENCED NOTES:

1. GIRDER TRUSS
2. VALLEY TRUSSES ABOVE
3. WOOD ROOF TRUSSES AT 2'-0" O.C. (TYP.) - REFER TO SHEET A-3 FOR ROOF SLOPES
4. OUTLINE OF ROOF ABOVE
5. BEARING PLATE BY GIRDER TRUSS SUPPLIER
6. PROVIDE APPROPRIATE STEEL COLUMN CONNECTION BRACKETS EQUAL TO SIMPSON STRONG TIE (TYPICAL ALL ENGINEERED BEAM/COLUMN CONNECTIONS
7. CONSTRUCT BEAM BEARING POCKET IN STUD WALL PROVIDE SOLID STUD BEARING EQUAL TO WIDTH OF BEAM - TYPICAL
8. STEEL BRACKET FOR GIRDER TRUSS CONNECTION BY TRUSS MANUFACTURER TYPICAL.
9. 22"x28" REMOVABLE INSULATED PANEL FOR ATTIC ACCESS
10. 3" POURED CONCRETE SLAB WITH 6" x 6" W1.4/W1.4 W.W.F. REINF. ON 9/16" x 22 GAUGE GALVANIZED FORM DECK. PROVIDE CONTROL JOINTS (CRACK CONTROL) AT 12'-0" O.C.
11. 3 1/2" POURED CONCRETE SLAB WITH 6" x 6" W2.9/W2.9 W.W.F. REINF. ON 1" x 22 GAUGE GALVANIZED FORM DECK EQUAL TO VULCROFT 1.0C CONFORM REFER TO DETAILS 8 & 9 SHEET S-4. PROVIDE CONTROL JOINT (CRACK CONTROL) AT 12'-0" O.C. MAX SPACING

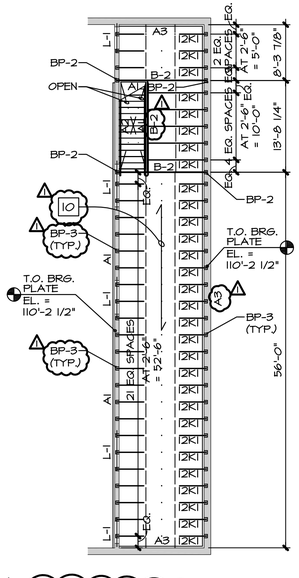


FLOOR FRAMING PLAN

SCALE 1/8" = 1'-0"

FLOOR DESIGN LOADING

LIVE LOAD:	100 PSF
DEAD LOAD:	55 PSF
TOTAL LOAD:	155 PSF

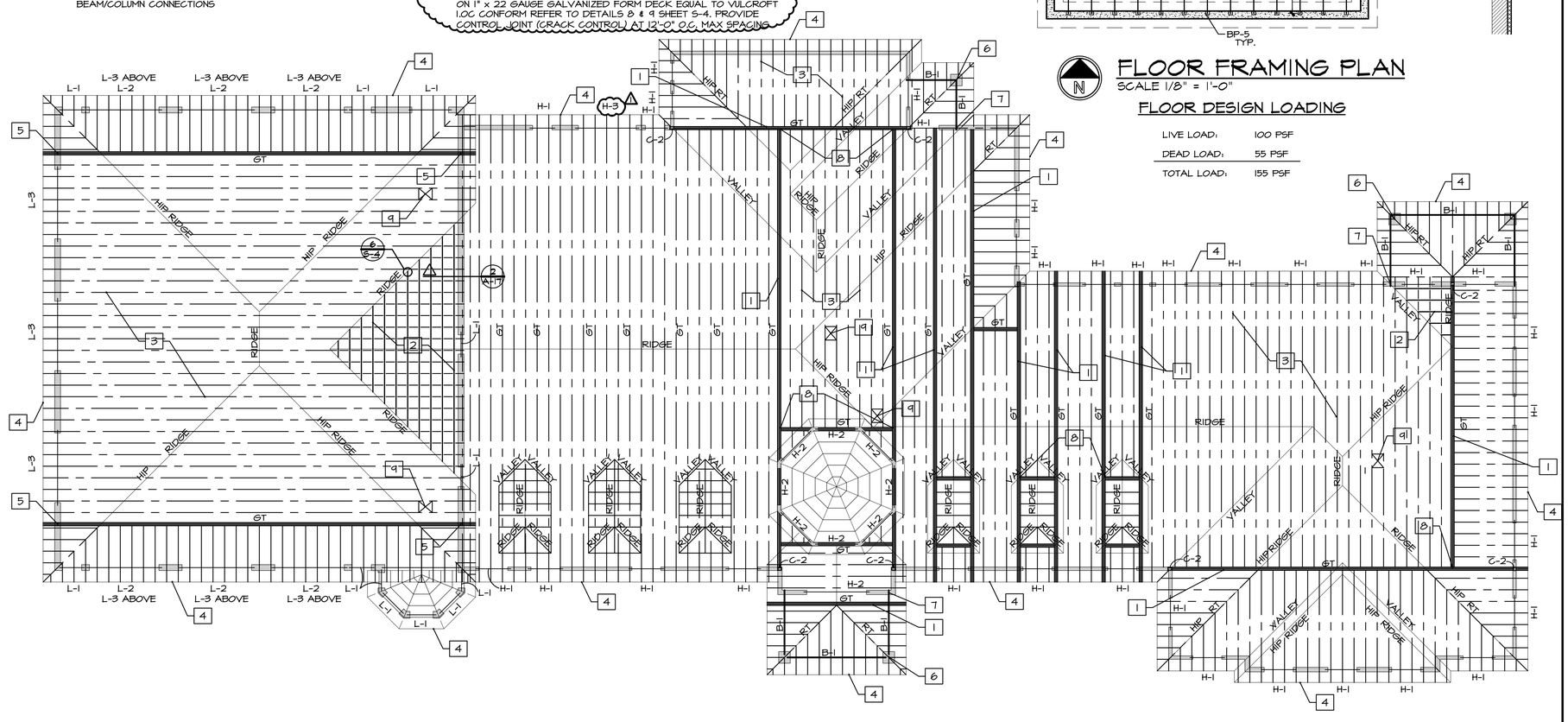


MEZZANINE FLOOR DESIGN LOADING

LIVE LOAD:	125 PSF
DEAD LOAD:	50 PSF
TOTAL LOAD:	175 PSF

MEZZANINE FLOOR FRAMING PLAN

SCALE 3/32" = 1'-0"



ROOF FRAMING PLAN

SCALE 3/32" = 1'-0"

CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
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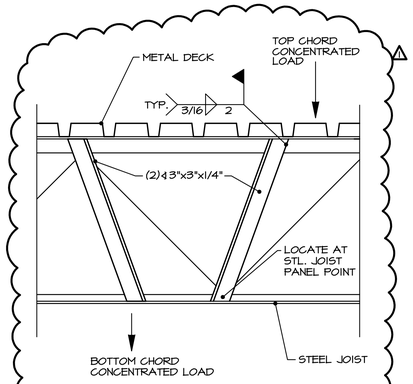
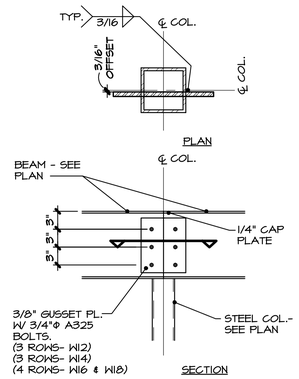
NEW CONSTRUCTION FOR:
CHARTER TOWNSHIP OF FORT GRATIOT MUNICIPAL CENTER
3720 KEEWAHDIN ROAD, FORT GRATIOT, MICHIGAN 48059

PROJECT NO.	13003300
DATE	FEBRUARY 4, 2014
AS BUILT DATE	
DRAWN BY	JMH
CHECKED BY	GM
SCALE	AS NOTED
ISSUED FOR:	
BIDDING	FEB. 18, 2014
1 ADDENDUM ONE	FEB. 27, 2014

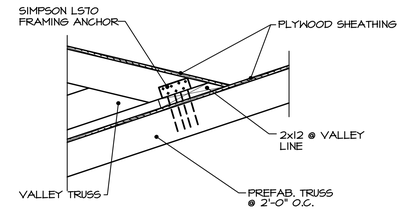
SHEET NO.
S-2
OF 5



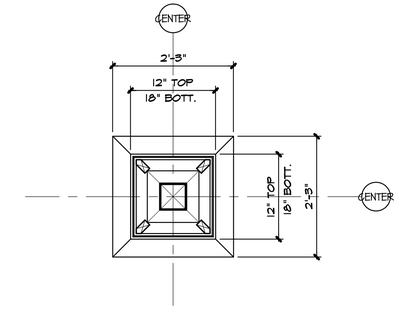
TYPICAL JOIST REINFORCING 10
SCALE: 1 1/2" = 1'-0"



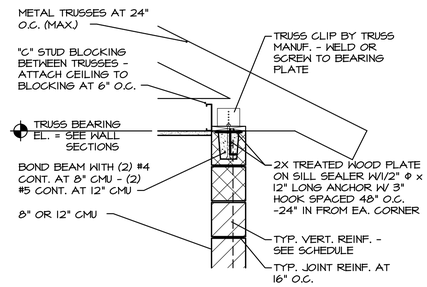
DETAIL 7
SCALE: 1" = 1'-0"



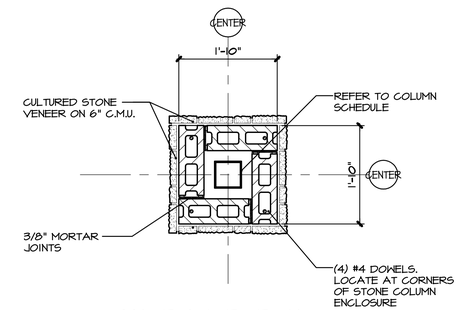
DETAIL 6
SCALE: 1" = 1'-0"



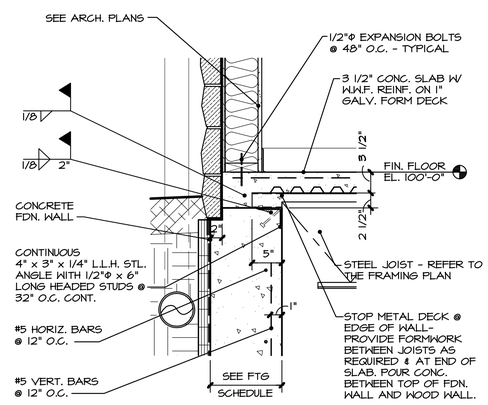
CANOPY & PORCH SECTION ABOVE 3
SCALE: 3/4" = 1'-0"



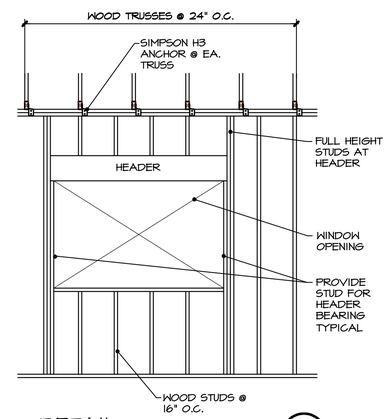
TRUSS BEARING DETAIL 5
SCALE: 3/4" = 1'-0"



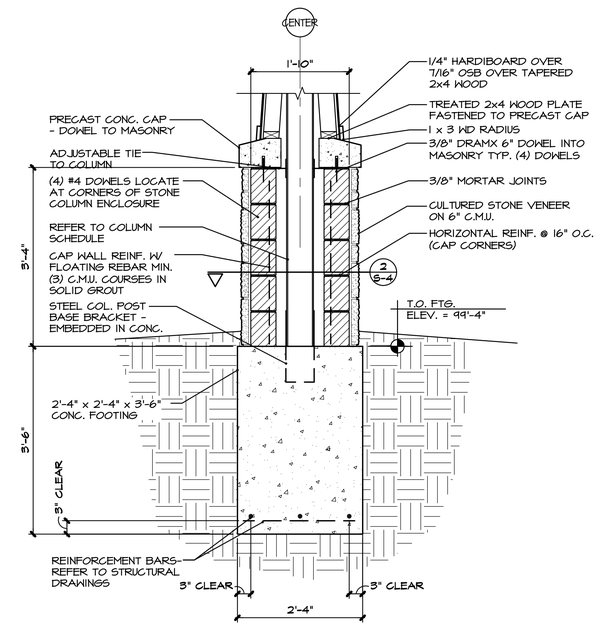
CANOPY & PORCH COLUMN BASE DETAIL 2
SCALE: 3/4" = 1'-0"



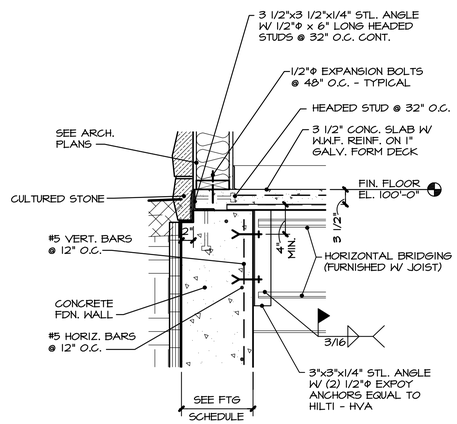
JOIST BRG. DETAIL 8
SCALE: 1" = 1'-0"



DETAIL 4
SCALE: 3/8" = 1'-0"



CANOPY & PORCH COLUMN BASE DETAIL 1
SCALE: 3/4" = 1'-0"



BRIDGING DETAIL 9
SCALE: 1" = 1'-0"

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NEW CONSTRUCTION FOR:

CHARTER TOWNSHIP OF FORT GRATIOT MUNICIPAL CENTER

3720 KEEWAHDIN ROAD, FORT GRATIOT, MICHIGAN 48059

PROJECT NO.	15003300
DATE	FEBRUARY 4, 2014
AS BUILT DATE	.
DRAWN BY	JMH
CHECKED BY	GM
SCALE	AS NOTED
ISSUED FOR:	
BIDDING	FEB. 18, 2014
⚠ ADDENDUM ONE	FEB. 27, 2014

SHEET NO.

S-4

OF 5

GENERAL NOTES

1. THIS BUILDING HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN BUILDING CODE, 2003 EDITION

A. DESIGN LOADS:

A. ELEVATED FLOOR LIVE LOADS: 125 PSF (STORAGE)

1 B. ROOF LIVE LOAD = 21 PSF (MBC 1607.11)

C. SNOW LOADS (MBC 1608)

a. GROUND SNOW LOAD, Pg = 25 PSF (MBC FIG. 1608.2)
b. SNOW EXPOSURE FACTOR, Ce = 1.0 (MBC TABLE 1608.3.1)
c. THERMAL FACTOR, Ct = 1.1 (MBC TABLE 1608.3.2)
d. BUILDING CATEGORY IV (MBC TABLE 1604.5)
e. IMPORTANCE FACTOR, Is = 1.2 (MBC TABLE 1604.5)
f. FLAT ROOF SNOW LOAD, Pf = 23.1 PSF + DRIFTING (MBC 1608.3)
g. DRIFTING CALCULATED PER ASCE 7-02
h. UNBALANCED SNOW LOADS: LEEWARD = 6.9 PSF, WINDWARD = 34.8 PSF

D. WIND LOADS (MBC 1609)

a. BASIC WIND SPEED V = 90 MPH (3-SECOND GUST) (MBC FIG. 1609)
b. BUILDING CATEGORY IV (MBC TABLE 1604.5)
c. IMPORTANCE FACTOR, Iw = 1.15 (MBC TABLE 1604.5)
d. EXPOSURE CATEGORY B (MBC 1609.4)
e. INTERNAL PRESSURE COEFFICIENT +0.18

E. EARTHQUAKE LOADS (MBC 1615)

a. SEISMIC USE GROUP III (MBC 1616.2)
b. SEISMIC IMPORTANCE FACTOR, Ie = 1.5 (MBC TABLE 1604.5)
c. Ss = 0.11 (MBC FIG. 1615(1)); S1 = 0.04 (MBC FIG. 1615(2))
d. SITE CLASS = D (MBC TABLE 1615.1.1)
e. Fa = 1.6 (MBC TABLE 1615.1.2(1)); Fv = 2.4 (MBC TABLE 1615.1.2(2))
f. Sms = Fa*Ss = 0.18 (MBC 1615.1.2); Sm1 = Fv*S1 = 0.10 (MBC 1615.1.2)
g. Sds = (2/3)*Sms = 0.12 (MBC 1615.1.3); Sd1 = (2/3)*Sm1 = 0.64 (MBC 1615.1.3)
h. SEISMIC DESIGN CATEGORY = A (MBC 1616.3)
i. SEISMIC RESISTING SYSTEM: ORDINARY MASONRY SHEAR WALLS (MBC TABLE 1617.6.2)
j. DESIGN BASE SHEAR = 0.04W (MBC 1617.5.1)
k. RESPONSE MODIFICATION FACTOR, R = 3.0 (MBC TABLE 1617.6.2)
l. EARTHQUAKE LOADS CALCULATED PER SECTION 1617.5 "SIMPLIFIED ANALYSIS PROCEDURE FOR SEISMIC DESIGN OF BUILDINGS."

2. THE ARCHITECTURAL DRAWINGS SHALL BE WORKED WITH THE STRUCTURAL DRAWINGS. SOME STRUCTURAL INFORMATION HAS BEEN INCORPORATED IN THE ARCHITECTURAL DRAWINGS.
3. THE STRUCTURE SHALL BE CONSIDERED TO BE IN AN UNSTABLE CONDITION UNTIL ALL WALL AND ROOF STRUCTURES ARE COMPLETED. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR STABILITY AND TO RESIST LATERAL LOADS DURING ERECTION.
4. ALL NON LOAD BEARING WALLS SHALL BE CONSTRUCTED TO ALLOW FOR THE VERTICAL DEFLECTION OF THE STRUCTURE ABOVE.

FOUNDATIONS

1 1. FOUNDATIONS ARE DESIGNED FOR A MAXIMUM ALLOWABLE BEARING CAPACITY OF 2500 PSF. PER RECOMMENDATIONS NOTED IN THE GEOTECHNICAL REPORT BY PROFESSIONAL SERVICES INDUSTRIES, INC. - DATED FEBRUARY 2, 2014.

2. THE CONTRACTOR WILL RETAIN THE SERVICES OF A QUALIFIED GEOTECHNICAL ENGINEER TO MONITOR THE FOUNDATION WORK & DETERMINE THE QUALITY OF THE SOIL AT ALL FOOTING LOCATIONS. EXCAVATIONS ARE TO BE INSPECTED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. THE UNSUITABLE MATERIALS SHALL BE REMOVED AND FOOTINGS SHALL BE LOWERED (THICKENED).

3. CONTRACTORS SHALL BE AWARE OF AND VERIFY LOCATION OF ALL UNDERGROUND UTILITIES, TANKS, ETC. A HIGH PRESSURE GAS MAIN RUNS DIRECTLY ACROSS THE PROJECTED SITE. DUE CARE SHALL BE EXERCISED DURING EXCAVATION SO THAT EXISTING UTILITIES ARE NOT DAMAGED

4. ALL TOPSOIL AND LOOSE FILL MATERIALS BE STRIPPED FROM THE CONSTRUCTION AREA AND WASTED OR STOCKPILED FOR LATER USE. A GEOTECHNICAL ENGINEERS REPRESENTATIVE OF OF THE SOILS ENGINEER IN THE FIELD SHOULD DETERMINE THE EXACT DEPTH OF STRIPPING AT THE TIME OF THE STRIPPING OPERATIONS. THE EXPOSED SUBGRADE SHOULD BE PROOFROLLED WITH APPROVED EQUIPMENT. THIS PROOFROLLING WILL DETERMINE WHERE SOFT UNSUITABLE MATERIALS ARE ENCOUNTERED, THESE SOILS SHOULD BE REMOVED AND REPLACED WITH WELL-COMPACTE MATERIAL. A REPRESENTATIVE OF THE SOILS ENGINEER BE PRESENT FOR THIS PHASE OF THE PROJECT.

5. AFTER THE EXISTING SUBGRADE SOILS ARE STRIPPED AND PROOFROLLED, THE PLACEMENT AND COMPACTION OF FILL FOR STRUCTURAL APPLICATIONS SHALL BE MONITORED AND TESTED BY A QUALIFIED REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. ALL FILL SHALL BE FORMED FROM MATERIAL FREE OF VEGETABLE MATTER, RUBBISH, LARGE ROCK AND OTHER DELETERIOUS MATERIAL. WITH THE EXCEPTION OF SOILS WITH HIGH AMOUNTS OF CLAY AND SILT, MOST OF THE ONSITE SOILS APPEAR TO BE ADEQUATE FOR STRUCTURAL FILL. THE FILL MATERIAL SHOULD BE PLACED IN LAYERS NOT TO EXCEED 8 INCHES IN LOOSE THICKNESS AND SHOULD BE WATERED AS REQUIRED TO SECURE SPECIFIED COMPACTION. EACH LAYER SHOULD BE UNIFORMLY COMPACTED BY MEANS OF SUITABLE EQUIPMENT OF THE TYPE REQUIRED BY THE MATERIALS COMPOSING THE FILL. THE FILL SHOULD BE COMPACTED TO THE SPECIFIED PERCENT OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM DENSITY TEST D-1557 (95% BELOW ALL STRUCTURAL AREAS OR STRUCTURAL INFLUENCED AREAS AND 90% BELOW FLOOR SLAB AREAS). SHOULD THE RESULTS OF THE INPLACE DENSITY TEST INDICATE THAT THE SPECIFIED COMPACTION LIMITS ARE NOT OBTAINED, THE AREAS REPRESENTED BY SUCH TESTS SHOULD BE REWORKED AND RETESTED AS REQUIRED UNTIL THE SPECIFIED DIFFERENTIAL SETTLEMENTS WHICH ARE DETRIMENTAL TO THE BEHAVIOR OF SHALLOW FOUNDATIONS, FLOOR SLABS, AND PAVEMENT SECTIONS.

CONCRETE

1. THE FOLLOWING CODES GOVERN THE DESIGN, DETAILING, FABRICATION AND CONSTRUCTION OF ALL REINFORCED CONCRETE:
   A. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-02)
2. ALL CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE AS FOLLOWS:
   FOOTINGS, PIERS, AND WALLS 3000 PSI
   SLAB ON GRADE 3500 PSI
   ALL EXTERIOR EXPOSED CONCRETE SHALL BE ENTRAINED.
3. BEFORE PLACING CONCRETE REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS OF PIPE SLEEVES, EMBEDDED ITEMS, OPENINGS, EQUIPMENT PADS, ELECTRICAL CONDUITS, RECESSES, DRAINS, ETC. ALL OPENINGS FOR PIPE, CONDUITS, ETC. SHALL BE SLEEVED. MINIMUM SLEEVE SPACING SHALL BE 3 SLEEVE DIAMETERS.
4. ALL DEFORMED BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60.
5. ALL DEFORMED BAR REINFORCING SHALL BE SPLICED A MINIMUM OF 32 BAR DIAMETERS.
6. ALL WELDED WIRE FABRIC SHALL BE ASTM A-185. SHEETS SHALL BE LAPPED A MINIMUM OF WIRE SPACING + 2".

CONCRETE MASONRY

1. THE FOLLOWING CODES GOVERN THE DESIGN, DETAILING AND CONSTRUCTION OF ALL MASONRY:
   A. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-02)
   B. SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1-02)
2. ALL MASONRY SHALL HAVE A COMPRESSIVE STRENGTH, f'm = 1500 PSI.
3. ALL MORTAR FOR LOAD BEARING AND EXTERIOR CONCRETE MASONRY SHALL BE TYPE S, ABOVE GRADE AND TYPE M BELOW GRADE PROPORTIONED BY VOLUME ACCORDING TO ASTM C-270.
4. ALL GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI, AND SHALL BE PROPORTIONED BY VOLUME ACCORDING TO ASTM C-476.
5. ALL CONCRETE MASONRY UNITS SHALL BE ASTM C-90 GRADE N,TYPE I UNITS MEDIUM WEIGHT UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER DETAILS WITH REGARD TO FACE FINISH.
6. ALL MASONRY WALLS SHALL HAVE HORIZONTAL LADDER TYPE JOINT REINFORCEMENT AT 16" O.C. PROVIDE PREFABRICATED CORNER PIECES AT ALL CORNERS AND INTERSECTIONS OF WALLS.
7. ALL DEFORMED BAR REINFORCING SHALL BE ASTM A-615 GRADE 60. LAP SPLICES IN WALLS SHALL BE A MINIMUM OF 48 BAR DIAMETERS, UNLESS NOTED OTHERWISE.
8. REINFORCE ALL MASONRY WALLS AS SHOWN ON SCHEDULE AND DETAILS. PLACE BAR ON CENTERLINE OF WALL IN FULLY GROUTED CELL FULL HEIGHT OF THE WALL. LAP REINFORCEMENT WITH TYPICAL FOOTING DOWEL - REFER TO WALL SECTIONS FOR DOWELS REQUIREMENTS.

STRUCTURAL STEEL

1. THE FOLLOWING CODE SHALL GOVERN THE DETAILING, FABRICATION & ERECTION OF ALL STEEL:
   A. MANUAL OF STEEL CONSTRUCTION, 9TH EDITION (AMERICAN INSTITUTE OF STEEL CONSTRUCTION)

WIDE FLANGE SHAPES	——	ASTM A-992, Fy = 50 KSI
STEEL PLATE, CHANNELS & ANGLES	——	ASTM A-36
STRUCTURAL STEEL TUBES	——	ASTM A-500 GRADE B, Fy = 46KSI

2. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2000 STRUCTURAL WELDING CODE. E70XX ELECTRODES SHALL BE USED FOR WELDED SHOP & FIELD CONNECTIONS.
3. ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4"Φ ASTM A-325 BOLTS. ALL BOLTED CONNECTIONS SHALL BE CONSIDERED AS BEARING UNLESS NOTED OTHERWISE.
4. ALL FRAMED BEAM CONNECTIONS ARE TO CONFORM TO AISC STANDARD TWO ANGLE WEB CONNECTIONS EXCEPT AS DETAILED ON DRAWINGS CAPABLE OF SUPPORTING 50% OF THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM OR FOR LOADS INDICATED ON DRAWING. NO CONNECTION SHALL CONSIST OF LESS THAN TWO 3/4"Φ BOLTS OR A WELD DEVELOPING LESS THAN 10 KIPS.
5. ALL FIELD CONNECTIONS SHALL BE BOLTED UNLESS NOTED OTHERWISE. FIELD WELDING IS NOT ALLOWED EXCEPT WHERE SPECIFICALLY INDICATED OR APPROVED.
6. ALL GROUT PADS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI IN 7 DAYS.
7. ALL ANCHOR BOLTS SHALL BE ASTM A-36.
8. PROVIDE AND HAVE IN PLACE ADEQUATE LATERAL BRACING AND VERTICAL SUPPORTS FOR THE SAFE ERECTION AND TRUE ALIGNMENT OF THE STRUCTURAL STEEL. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR THE SAFE ERECTION & TEMPORARY BRACING OF STRUCTURAL STEEL.
9. VERIFY NUMBER AND SIZE OF OPENINGS IN ROOF, WALLS, AND FLOOR WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS, FOR STRUCTURAL REQUIREMENTS. VERIFY ALL DETAILS & INFORMATION WITH THE APPROPRIATE CONTRACTOR
10. ALL DIMENSIONS RELATED TO STRUCTURAL STEEL USED TO SUPPORT EQUIPMENT OR FRAME OPENINGS SHALL BE VERIFIED WITH CERTIFIED AND APPROVED SHOP DRAWINGS OF PURCHASED EQUIPMENT PRIOR TO DETAILING AND FABRICATION.
11. ALL EDGES OF METAL DECK SHALL BE SUPPORTED AT A CHANGE IN DECK SPAN WHETHER SHOWN ON DRAWINGS OR NOT. PROVIDE TUBE STEEL OR A DOUBLE ANGLE BETWEEN JOIST AND METAL DECK.
12. FIELD WELD ALL LINTELS AND BEAMS TO BEARING PLATE WITH A 5/16" x 4" L6. FILLET WELD TO EACH SIDE - U.N.O.

STEEL JOISTS

1. STEEL JOIST DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO THE REQUIREMENTS AND STANDARD SPECIFICATIONS FOR THE STEEL JOIST INSTITUTE AND THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION. ONLY STEEL JOISTS FROM A STEEL JOIST INSTITUTE APPROVED FABRICATORS WILL BE ACCEPTABLE.
2. PROVIDE WELDED HORIZONTAL BRIDGING AS REQUIRED PER STEEL JOIST INSTITUTE REQUIREMENTS. BRIDGING SHALL NOT BE CUT OR REMOVED. NOTIFY THE ENGINEER IMMEDIATELY IF REMOVED OR CUT.
3. ALL CONCENTRATED LOADS DUE TO HANGERS, MECHANICAL EQUIPMENT, ETC. SHALL BE SUPPORTED ONLY AT JOIST PANEL POINTS. PROVIDE ADDITIONAL MEMBERS AS NECESSARY TO MEET THIS REQUIREMENT - REFER TO DETAIL 7 ON SHEET S-5.
4. WELD STEEL JOISTS TO ALL SUPPORTS W/ 3/16" x 2" LONG FILLET WELD EACH SIDE OF JOIST U.N.O.

METAL DECK

1. THE FOLLOWING CODE SHALL GOVERN THE DESIGN, FABRICATION, AND INSTALLATION OF ROOF DECK:
   A. DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECK AND ROOF DECKS (STEEL DECKS INSTITUTE, INC.)
2. FLOOR DECK SHALL BE 9/16", 22 GA, GALVANIZED METAL DECK.
3. FORM DECK SHALL BE FASTENED TO SLIP JOINT, WITH 5/8"Φ PUDDLE WELD THRU WELDING WASHERS AT 12" O.C. AT ALL SUPPORTS AND PERIMETER FRAMING.
4. PROVIDE ADDITIONAL SUPPORT FRAMING AT OPENINGS IN ROOF - REFER TO TYPICAL DETAIL 8 ON SHEET S-5

WOOD FRAMING

1. DIMENSIONAL FRAMING MATERIAL SHALL BEAR THE GRADE MARK OF AN ALSC APPROVED AGENCY AND SHALL HAVE MET THE FOLLOWING REQUIREMENTS:
   A. 2X4 STUD WALLS, HEM-FIR, CONSTRUCTION GRADE
   B. 2X6 AND LARGER; HEM - FIR #2 GRADE
2. INSTALL CONNECTORS, HANGERS, STRAP TIES PER MANUFACTURER'S RECOMMENDATIONS.
3. ALL ROOF, WALL SHEATHING SHALL BE APA RATED WITH THICKNESS AND LOAD RATINGS INDICATED ON PLANS OR SPECS. ALL SHEATHING SHALL BE FIRE TREATED - REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. NOT USED 1
5. ALL FRAMING SHALL BE ERECTED, TRUE LEVEL, AND/OR PLUMB. MEMBERS SHALL BE SECURELY NAILED OR BOLTED IN PLACE AS DETAILED AT THE PROPER LOCATIONS OR SPACING INDICATED. ALL FRAMING MEMBERS SHALL BE OF FULL LENGTH WITHOUT PIECES ADDED OR SPLICED. FURRING, BLOCKING, NAILERS, ETC.. SHALL BE SECURELY ANCHORED IN PLACE.
6. COMPLY WITH THE RECOMMENDATIONS AND PRACTICES OF THE AITC, NFPA AND TIP FOR THE INSTALLATION OF ALL WOOD FRAMING.
7. ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE SHALL BE TREATED.

WOOD TRUSSES

1. WOOD TRUSSES SHALL BE DESIGNED AND FABRICATED PER TRUSS PLATE INSTITUTE, INC. SPECIFICATIONS.
2. SHOP DRAWINGS FOR TRUSSES SHALL BE PREPARED BY THE SUPPLIER AND SUBMITTED TO THE ARCHITECT FOR APPROVAL. SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF AND AND SHALL BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MICHIGAN. SHOP DRAWINGS SHALL SHOW BRIDGING FOR CHORD MEMBERS IF REQUIRED BY DESIGN.
3. VALLEY TRUSSES SHALL BEAR ON TOP CHORD OF ROOF TRUSSES AND FASTENED TO EACH TRUSS PER DETAIL 6/S-4. 1
4. THE EXTENT OF ROOF TRUSSES SHOWN ON THE PLAN IS FOR REFERENCE AND THE TRUSS SUPPLIER SHALL DETERMINE LOCATION AND NUMBER AS REQUIRED TO PROVIDE A COMPLETE ROOF STRUCTURE.
5. WOOD TRUSSES SHALL BE DESIGNED, FABRICATED AND INSTALLED PER TRUSS PLATE INSTITUTE, INC. SPECIFICATION AND NFPA NATIONAL, INC. SPECIFICATIONS AND NFPA NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.
6. DEFLECTION OF TRUSSES SHALL BE LIMITED TO MAXIMUM LIVE LOAD DEFLECTION OF SPAN/360.
7. DESIGN AND SPECIFICATION OF TEMPORARY AND PERMENANT WOOD TRUSS BRACING BY TRUSS MANUFACTURER AND SHOWN ON SHOP DRAWINGS. TRUSS INSTALLER SHALL PROVIDE AND INSTALL BRACING PER SHOP DRAWINGS.
8. ANCHOR TRUSS TO CONTINUOUS PLATES WITH ONE TRUSS ANCHOR 480 POUND MINIMUM UPLIFT. EQUAL TO SIMPSON STRONG TIE #H2.5A
9. REFERENCES TO "SIMPSON" ARE "SIMPSON STRONG-TIE" CONNECTORS OR EQUAL.

SHEATHING

1. ROOF DECK SHEATHING: 1/2 INCH THICK APA RATED 24/16. FASTENED WITH 8D COMMON NAILS AT 6 INCHES O.C., AT PANEL EDGES AND 12" Φ INTERMEDIATE SUPPORTS.
2. WALL SHEATHING: 1/2 INCH THICK APA RATED WITH 24/26 RATING. FASTENED WITH 8D COMMON NAILS Φ 6 INCHES O.C., AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. PROVIDE SOLID BLOCKING AT ALL PANEL EDGES.

STRUCTURAL NOTES

CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
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NEW CONSTRUCTION FOR:
CHARTER TOWNSHIP OF FORT GRATIOT
MUNICIPAL CENTER
3720 KEEWAHDIN ROAD, FORT GRATIOT, MICHIGAN 48059

PROJECT NO.	15003500
DATE	FEBRUARY 4, 2014
AS BUILT DATE	.
DRAWN BY	JMH
CHECKED BY	GM
SCALE	AS NOTED
ISSUED FOR:	
BIDDING	FEB. 18, 2014
1 ADDENDUM ONE	FEB. 27, 2014

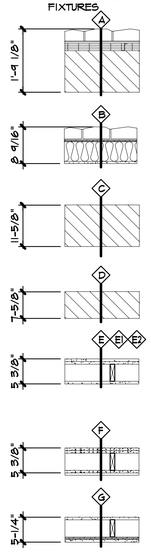
SHEET NO.
S-5
OF 5

GENERAL NOTES

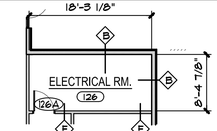
1. ALL EXTERIOR DIMENSIONS ARE MEASURED TO OUTSIDE FACE OF C.M.U. OR OSB UNLESS NOTED OTHERWISE.
2. ALL INTERIOR DOORS AT WALL CORNERS NOT DIMENSIONED SHALL BE SET 4" AWAY FROM ADJACENT WALL.
3. REFER TO ROOM FINISH SCHEDULE SHEET A-10 FOR ALL INTERIOR FINISH REQUIREMENTS.
4. REFER TO DOOR SCHEDULE SHEET A-11 AND DIVISION 8 OF THE SPECIFICATIONS FOR ALL DOOR AND FRAME REQUIREMENTS.
5. F.E. = FIRE EXTINGUISHER (FLUSH) - REFER TO SECTION 10 44 16 OF THE SPECIFICATIONS.
6. ALL INTERIOR DIMENSIONS ARE MEASURED FROM THE INSIDE FACE OF WALL FINISH MATERIAL - REFER TO THE "WALL TYPES".
7. GENERAL CONTRACTOR SHALL PROVIDE ALL WOOD BLOCKING FOR KITCHEN CABINETS, MILLWORK, TOILET ACCESSORIES, ETC.
8. ALL EXTERIOR DOORS SHALL HAVE AN ALUMINUM THRESHOLD SET IN MASTIC.
9. PROVIDE FLOOR TRANSITION STRIPS BETWEEN DIFFERENT FINISH MATERTIALS. INSTALL AS SHOWN OR UNDER DOOR WHERE REQUIRED.
10. CONTRACTOR SHALL INSTALL ALL FIRE BLOCKING AS REQUIRED PER THE LATEST MICHIGAN BUILDING CODE.
11. CONTROL JOINTS SHALL BE INSTALLED IN DRYWALL CEILING EXCEEDING 2500 S.F. IN AREA AND IN PARTITION WALLS THAT RUN 30 FT.
    THE DISTANCE SHALL NOT BE MORE THAN 50 FT. BETWEEN CEILING CONTROL JOINTS IN EITHER DIRECTION. A CONTROL JOINT SHALL BE INSTALLED WHERE CEILING FRAMING OR FURRING CHANGES DIRECTION. THE DISTANCE BETWEEN CONTROL JOINTS IN WALLS SHALL NOT BE MORE THAN 30 FT. A CONTROL JOINT SHALL BE INSTALLED WHERE A CONTROL JOINT OCCURS IN THE BASE EXTERIOR WALL.
12. CONTRACTOR SHALL COORDINATE WITH ARCHITECT THE EXACT TILE AND BORDER LAYOUT / PATTERN PRIOR TO INSTALLATION. REFER TO SHEET A-10 FOR FINISH PLAN
13. WINDOWS IN EXTERIOR WOOD FRAME WALLS ARE DIMENSIONED TO CENTERLINES (TYP.)

WALL LEGEND

NOTE: CONTRACTOR OPTION FOR NON LOAD-BEARING INTERIOR PARTITIONS TO BE 20 GAUGE METAL STUDS IN LIEU OF WOOD STUDS. PROVIDE BLOCKING AS REQUIRED FOR ALL DOOR AND WALL HUNG FIXTURES.

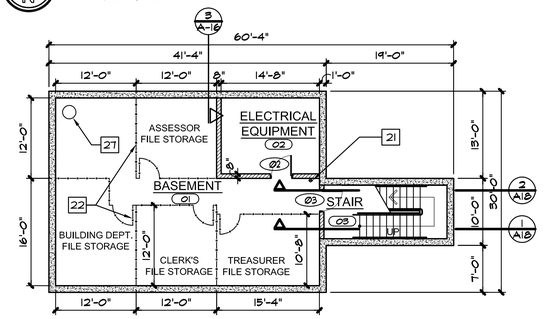


- A — EXTERIOR WALL- CULTURED STONE VENEER BASE ON METAL LATHER & MORTAR ON (2) LAYERS VAPOR BARRIER ON 1 1/2" METAIL "Z' FURRING CHANNELS @ 24" O.C. W/RIGID INSULATION ADHERED TO 12" NOMINAL CONCRETE MASONRY UNITS. REFER TO STRUCTURAL FOR REINFORCING
- B — EXTERIOR WALL- CULTURED STONE VENEER BASE ON METAL LATHE & MORTAR ON (2) LAYERS VAPOR BARRIER ON 7/16" O.S.B. ON 2x6 WOOD STUDS @ 16" O.C. W/5/8" GYPSUM BOARD- PAINT (CAVITY CELLULOSE INSULATION R-21)
- C — INTERIOR WALL- 12" NOMINAL CONCRETE MASONRY UNITS. REFER TO STRUCTURAL FOR REINFORCING
- D — INTERIOR WALL- 8" NOMINAL CONCRETE MASONRY UNITS TO UNDERSIDE OF MEZZANINE. REFER TO STRUCTURAL FOR REINFORCING
- E E2 — INTERIOR PARTITION - (2) LAYERS OF 5/8" GYPSUM BOARD ON ONE SIDE OF 2x4 WOOD STUDS AT 16" O.C. AND (1) LAYER OF 5/8" GYPSUM BOARD ON THE OPPOSITE SIDE TO UNDERSIDE OF TRUSSES (2X6 WD. STUDS @ 16" O.C. TO UNDERSIDE OF TRUSSES FOR WALL TYPE E1) (ONE LAYER OF 5/8" GYPSUM BOARD ON BOTH SIDES OF WOOD STUDS FOR WALL TYPE E2)
- F — INTERIOR PARTITION - (2) LAYERS OF 5/8" GYPSUM BOARD ON ONE SIDE OF 2x4 WOOD STUDS AT 16" O.C. AND (1) LAYER OF 5/8" CEMENT BOARD (ON TILE SIDE) WITH CERAMIC TILE ON THINSET MORTAR AND EXTEND PARTITION TO UNDERSIDE OF TRUSSES ABOVE PER FINISH SCHEDULE
- G — INTERIOR PARTITION - 5/8" TYPE "X" GYPSUM BOARD ONE SIDE ON 2x4 WOOD STUDS AT 16' O.C. W/ 1/2" PLYWOOD & 5/8" TYPE "X" GYPSUM BOARD



ALTERNATE #1 FLOOR PLAN

SCALE 3/32" = 1'-0"



BASEMENT FLOOR PLAN

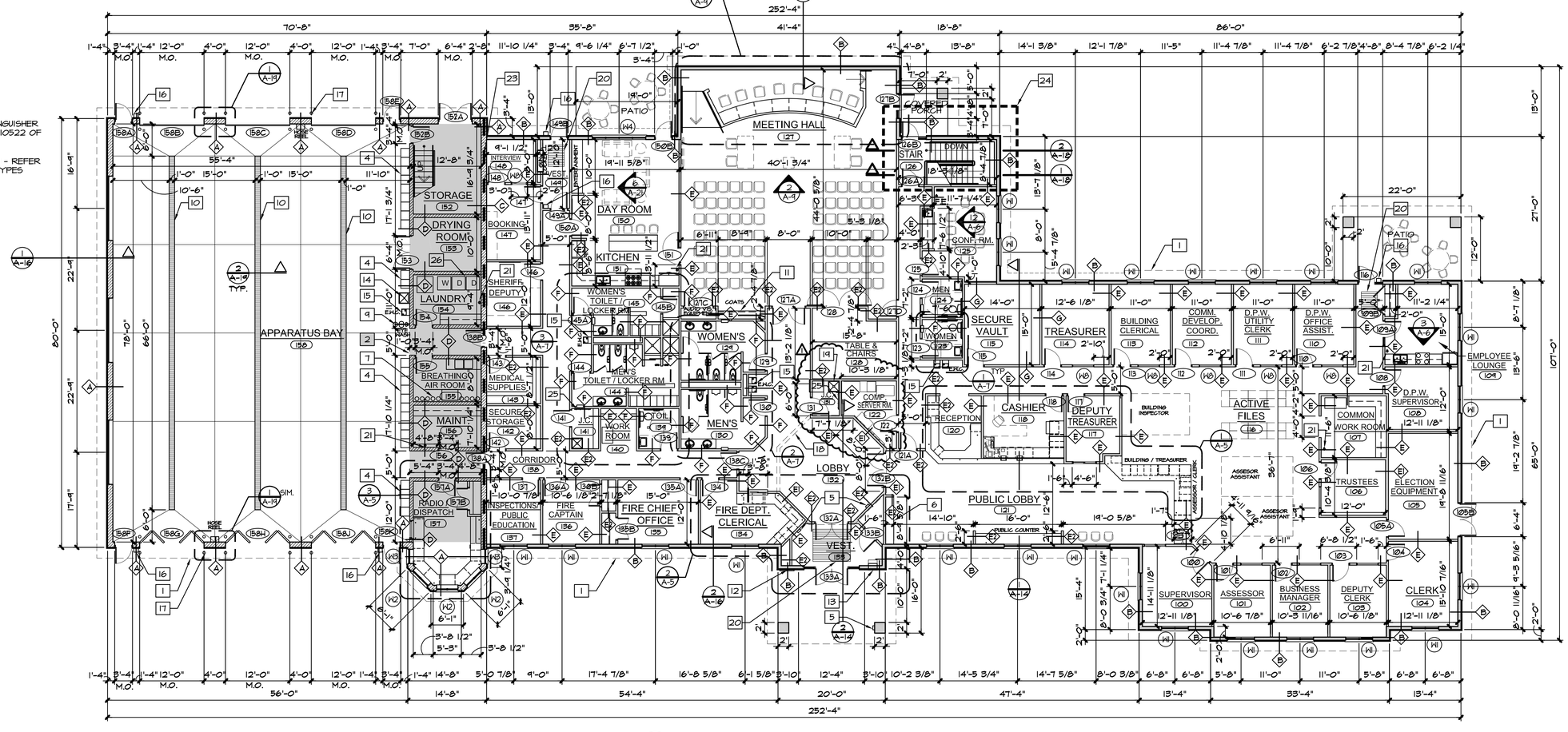
SCALE 3/32" = 1'-0"

REFERENCE NOTES

1. LINE OF ROOF ABOVE- REFER TO SHEET A-3.
2. SHADED AREA INDICATES MEZZANINE ABOVE- REFER TO SHEET A-4.
3. WALL HUNG GEAR RACKS - REFER TO SECTION 105113 OF THE SPECIFICATIONS.
4. APPARATUS GEAR RACKS - REFER TO SECTION 10 51 13 OF THE SPECIFICATIONS- TYPICAL FOR 25
5. AUTOMATIC DOOR OPENER CONTROL LOCATION - REFER TO SECTION 08 71 00 - 'FINISH HARDWARE' OF THE SPECIFICATIONS AND ELECTRICAL DRAWINGS.
6. PRE-FABRICATED DISPLAY CASE. REFER TO SECTION 10 12 00 "BULLETIN BOARDS AND DISPLAY CASES" OF THE SPECIFICATIONS - REFER TO DETAIL #5/A-20.
7. (4) AIR TANKS (EXISTING) - PROVIDED BY AND INSTALLED BY OWNER.
8. PORTABLE FIRE EXTINGUISHERS - REFER TO SECTION 10 44 16 OF THE SPECIFICATIONS.
9. EYEWASH AND SHOWER COMBINATION - REFER TO MECHANICAL DRAWINGS.
10. PRE-FABRICATED TRENCH DRAINS - REFER TO MECHANICAL DRAWINGS.
11. PROVIDE MELAMINE FINISHED SHELF AND HANGER ROD - REFER TO DETAIL #3/A-21.
12. SURFACE MOUNTED BULLETIN BOARD - REFER TO SHEET A-5
13. DROP BOX - REFER TO SHEET A-5
14. UTILITY SINK - REFER TO MECHANICAL DRAWINGS.
15. ELECTRIC WATER COOLER - REFER TO MECHANICAL DRAWINGS.
16. CARD READER WITH PUSH BUTTON CODE ACCESS - REFER TO SECTION 08 71 00 - FINISH HARDWARE' OF THE SPECIFICATIONS AND ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS.
17. CONCRETE FILLED GUARD POST - TYP.
18. LINE OF CUPOLA ABOVE - REFER TO SHEET A-2 FIRST FLOOR REFLECTED CEILING PLAN.
19. MOP SINK- REFER TO MECHANICAL DRAWINGS
20. RECESSED MAT- REFER TO SECTION 12 48 13 OF THE SPECIFICATIONS.
21. SURFACE MOUNTED FIRE EXTINGUISHERS - REFER TO SECTION 10 44 16 OF THE SPECIFICATIONS
22. FULL HEIGHT WIRE MESH PARTITION WITH SWINGING DOORS AND LOCKS - REFER TO SECTION 10 22 13 OF THE SPECIFICATIONS
23. (2) HOUR RATED PARTITION CONTINUOUS ABOVE (2) HOUR MASONRY WALL PARTITION (U906). (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD BOTH SIDES OF 2x WOOD STUDS WITH FIRE SEALANT (SEAL AIRTIGHT TO STRUCTURE ABOVE). PROVIDE FIRE MATERIAL 4'-0" ON EITHER SIDE OF PARTITION. REFER TO DETAIL #2 ON SHEET A-17.
24. REFER TO ALTERNATE FLOOR PLAN #1 ABOVE. (DELETE DOOR #126B) THIS PLAN IS TO BE USED IF STAIR #126 IS ELIMINATED.
25. MOP AND BROOM HOLDER MANUFACTURER: BRADLEY MODEL No.: 9954, OR APPROVED EQUAL. LOCATE OVER MOP SINK - COORDINATE WITH FAUCET.
26. PROVIDE 70" WIDE x 33" DEEP x 18" HIGH PLATFORM CONSTRUCTED OF 3/4" PLYWOOD AND 2x WOOD FRAMING (PAINT) UNDER GAS FIRED DRYERS
27. SUMP PUMP - REFER TO MECHANICAL DRAWINGS

LEGEND

- 2 HOUR FIRE RATED WALL CONSTRUCTION
- F.E. — PORTABLE FIRE EXTINGUISHER - REFER TO SECTION 10522 OF THE SPECIFICATION
- WX — WINDOW DESIGNATION - REFER TO SHEET A-18 FOR TYPES



FLOOR PLAN

SCALE 3/32" = 1'-0"

CHMP INC.
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NEW CONSTRUCTION FOR:

CHARTER TOWNSHIP OF FORT GRATIOT MUNICIPAL CENTER

3720 KEEWAHDIN ROAD, FORT GRATIOT, MICHIGAN 48059

PROJECT NO.	15003500
DATE	FEBRUARY 4, 2014
AS BUILT DATE	.
DRAWN BY	JMH
CHECKED BY	GM
SCALE	AS NOTED
ISSUED FOR:	
BIDDING	FEB. 18, 2014
1 ADDENDUM ONE	FEB. 27, 2014

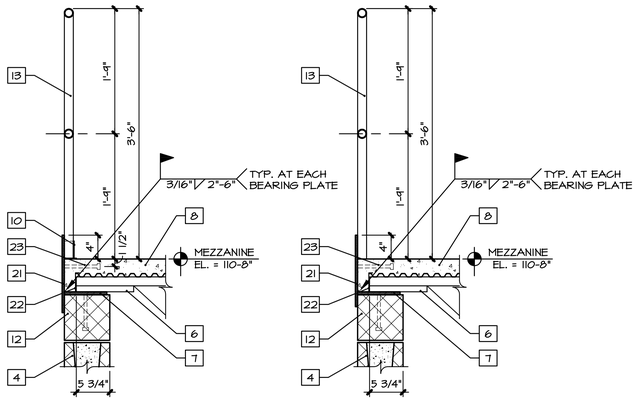
SHEET NO.

A-1

OF 21

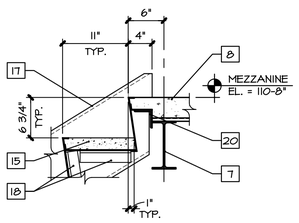
SECTION AND DETAIL REFERENCE NOTES:

1. 4" THICK CONC. SLAB WITH (1) LAYER 6x6 x W1.4xW1.4 W.W.F. REINF. ON 6 MIL. VAPOR BARRIER OVER 6" COMPACTED SAND FILL
2. 6" THICK CONC. SLAB WITH (2) LAYERS 6x6 x W2.9xW2.9 W.W.F. REINF. ON 6 MIL. VAPOR BARRIER OVER 6" COMPACTED SAND FILL
3. CONCRETE FOOTING - REFER TO THE STRUCTURAL DRAWINGS
4. BOND BEAM - REFER TO THE STRUCTURAL DRAWINGS
5. 8" CONCRETE MASONRY UNIT WALL
6. STEEL JOIST - REFER TO THE STRUCTURAL DRAWINGS
7. STRUCTURAL STEEL - REFER TO THE STRUCTURAL DRAWINGS
8. 3" CONC. SLAB ON 22 GA. 9/16" METAL DECKING (CONCRETE SEALER)
9. 1/2" EXPANSION JOINT MATERIAL
10. 1 1/2" DIA. COLLAR (PROVIDED FOR REMOVABLE SECTION OF RAILING SYSTEM - WELD TO STEEL PLATE
11. REINFORCING - REFER TO THE STRUCTURAL DRAWINGS
12. GROUT SOLID
13. 1 1/2" DIA. METAL GUARD RAILING SYSTEM - WELD TO STEEL PLATE
14. 1 1/2" DIA. METAL HANDRAIL
15. CONCRETE FILLED METAL PAN STAIR SYSTEM
16. THICKENED SLAB - REFER TO DETAIL 13 ON SHEET S-3
17. MC12x13.4 STEEL CHANNEL (TYP. STAIR STRINGER)
18. 1 1/4"x1 1/4"x1/8" ANGLE TREAD AND RISER SUPPORTS
19. C.M.U. WALL (BEYOND)
20. 3"x3"x1/4" STEEL ANGLE - EXPANSION BOLT TO FLOOR AND WELD TO STEEL STRINGER
21. 3/8" THICK STEEL PLATE - REFER TO THE STRUCTURAL DRAWINGS
22. SHEET METAL POUR STOP
23. 1/2"Φ x 6" LONG HEADED STUD AT 24" O.C.
24. EXTERIOR WALL CONSTRUCTION - REFER TO WALL SECTIONS
25. DOORS (BEYOND)
26. STRUCTURAL STEEL (BEYOND)

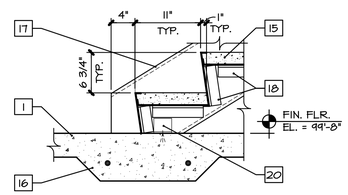


STAIR DETAIL 9 / A-4
SCALE: 1"= 1'-0"

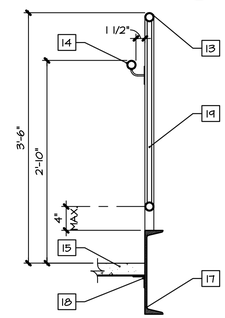
STAIR DETAIL 8 / A-4
SCALE: 1"= 1'-0"



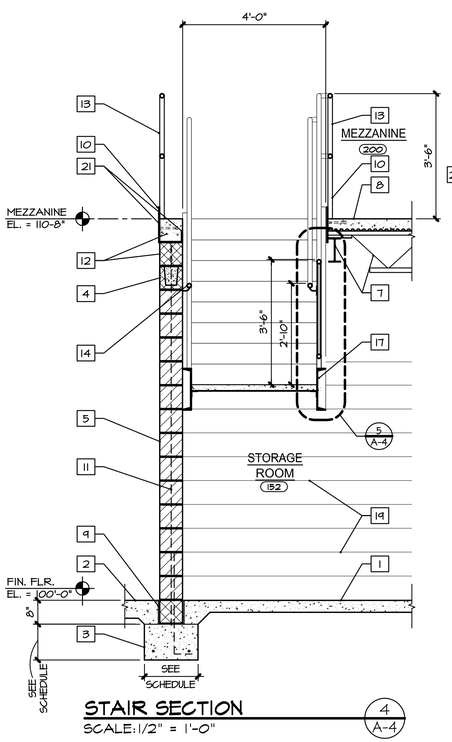
STAIR DETAIL 7 / A-4
SCALE: 1"= 1'-0"



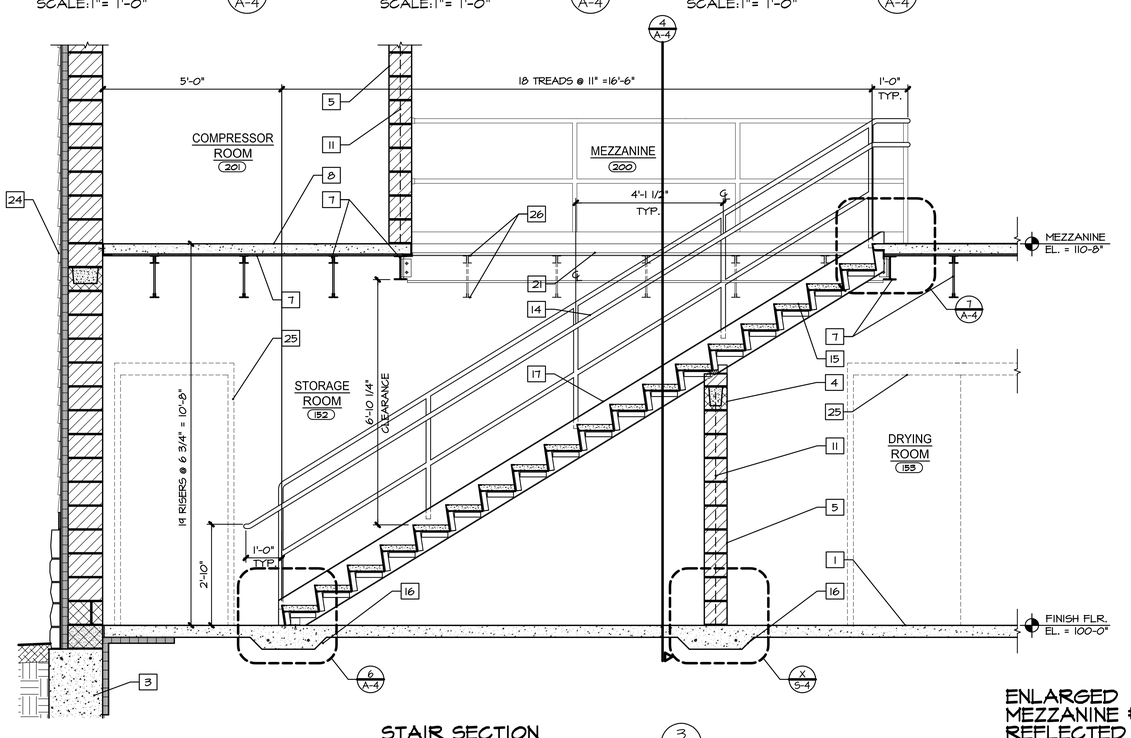
STAIR DETAIL 6 / A-4
SCALE: 1"= 1'-0"



STAIR DETAIL 5 / A-4
SCALE: 1"= 1'-0"



STAIR SECTION 4 / A-4
SCALE: 1/2" = 1'-0"



STAIR SECTION 3 / A-4
SCALE: 1/2" = 1'-0"

REFLECTED CEILING GENERAL NOTES

1. REFER TO "ROOM FINISH SCHEDULE" FOR ALL CEILING HEIGHTS AND FINISHES.
2. PAINT ALL EXPOSED MECHANICAL / ELECTRICAL EQUIPMENT (I.E... DUCTWORK, CONDUIT, ETC.)
3. 5/8" GYPSUM BOARD CEILING ATTACHED TO BOTTOM CHORD OF ROOF TRUSSES (TAPE, SAND, FINISH AND PAINT) - TYPICAL. REFER TO SECTION 09 21 16 - "GYPSUM BOARD ASSEMBLIES" OF THE SPECIFICATIONS.
4. PROVIDE 10 1/2" CELLULOSE INSULATION AT BOTTOM CHORD OF ALL ROOF TRUSSES (R-40).
5. REFER TO THE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE SCHEDULE.
6. REFER TO THE MECHANICAL DRAWINGS FOR RETURN AIR GRILLES AND SUPPLY AIR DIFFUSER SCHEDULES.
7. CONTROL JOINTS SHALL BE INSTALLED IN GYPSUM BOARD CEILINGS AND SOFFITS EXCEEDING 2500 S.F. IN AREA AND IN PARTITION WALLS THAT RUN 30 FT. THE DISTANCE SHALL NOT BE MORE THAN 50 FT. BETWEEN CEILING CONTROL JOINTS IN EITHER DIRECTION. A CONTROL JOINT SHALL BE INSTALLED WHERE CEILING FRAMING OR FURRING CHANGES DIRECTION. THE DISTANCE BETWEEN CONTROL JOINTS IN WALLS SHALL NOT BE MORE THAN 30 FT. A CONTROL JOINT SHALL BE INSTALLED WHERE A CONTROL JOINT OCCURS IN THE BASE EXTERIOR WALL.

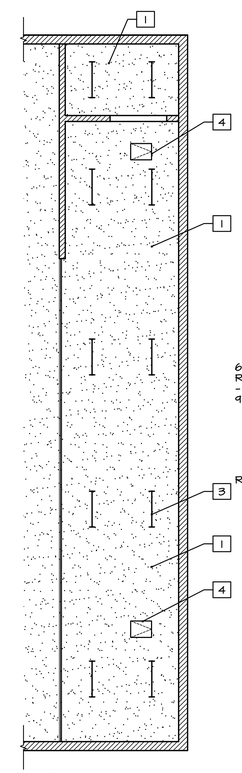
REFLECTED CEILING PLAN REFERENCE NOTES:

1. 5/8" GYPSUM BOARD CATHEDRAL CEILING - REFER TO BUILDING SECTIONS (PAINT) & SPECIFICATION SECTION 09 91 00
2. EXPOSED CONSTRUCTION
3. CEILING MOUNTED LIGHT FIXTURE- REFER TO ELECTRICAL DWGS.
4. 22"x28" INSULATED ATTIC ACCESS PANEL

REFLECTED CEILING CONSTRUCTION LEGEND

1' X 4' SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE

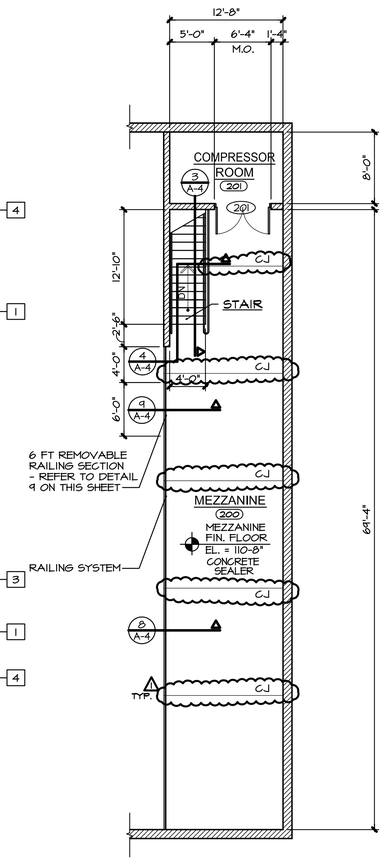
SURFACE MOUNTED EXTERIOR WALL PACK LIGHT FIXTURE



ENLARGED MEZZANINE #200 REFLECTED CEILING PLAN 2 / A-4
SCALE: 1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES

1. REFER TO THE FLOOR PLAN ON SHEET A-1 FOR "WALL TYPES".
2. PROVIDE PORTABLE FIRE EXTINGUISHERS COMPLIANT WITH INTERNATIONAL FIRE CODE IN SIZE, TYPE AND QUANTITY FOR EACH TENANT.



ENLARGED MEZZANINE #200 PLAN 1 / A-4
SCALE: 1/8" = 1'-0"

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NEW CONSTRUCTION FOR:
CHARTER TOWNSHIP OF FORT GRATIOT MUNICIPAL CENTER
3720 KEEWAHDIN ROAD, FORT GRATIOT, MICHIGAN 48059

PROJECT NO.	15003300
DATE	FEBRUARY 4, 2014
AS BUILT DATE	-
DRAWN BY	JMH
CHECKED BY	GM
SCALE	AS NOTED
ISSUED FOR:	
BIDDING	FEB. 18, 2014
⚠ ADDENDUM ONE	FEB. 27, 2014

SHEET NO.
A-4
OF 17

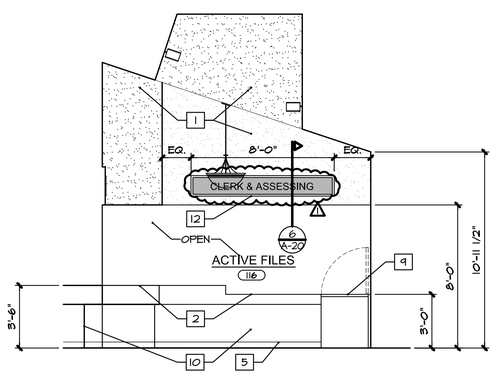
GENERAL NOTES

1. REFER TO SHEET A-10 FOR "ROOM FINISH SCHEDULE" FOR ALL INTERIOR ROOM FINISHES.

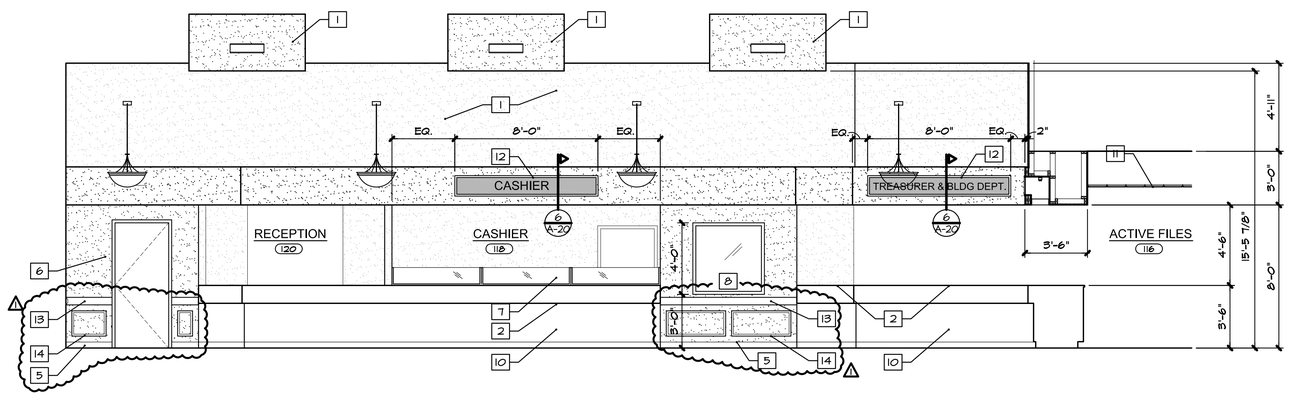
2. WATER RESISTANT GYPSUM BOARD SHALL BE USED AT ALL WALLS AT SINK LOCATIONS.

REFERENCE NOTES

1. GYPSUM BOARD - PAINT
2. SOLID SURFACE TRANSACTION COUNTER
3. PLASTIC LAMINATE COUNTER TOP / BACK/SIDE SPLASH
4. PLASTIC LAMINATE WRITING/ LAPTOP COUNTER
5. 4" HIGH PORCELAIN TILE BASE - REFER TO SHEET A-10 FOR "ROOM FINISH SCHEDULE"
6. WOOD DOOR IN HOLLOW METAL FRAME (PAINT) - REFER TO SHEET A-11 FOR "DOOR SCHEDULE"
7. 12" HIGH GLASS GUARD WINDOW
8. 1/4" FLOAT GLASS IN HOLLOW METAL FRAME (PAINT)
9. HINGED COUNTERTOP- REFER TO DETAIL #5 ON SHEET A-21
10. PLASTIC LAMINATE FACE
11. ACOUSTICAL TILE CEILING IN METAL SUSPENSION GRID - REFER TO REFLECTED CEILING PLAN
12. TRANSLUCENT SIGN PANELS WITH BACKLIGHTING - REFER TO ELECTRICAL DRAWINGS - COORDINATE SIGN LOCATIONS WITH OWNER PRIOR TO INSTALLATION
13. DECORATIVE CHAIR RAIL AS MANUFACTURED BY CENTRAL HARDWOOD #AWI-10851, 1 5/16" x 5" OR APPROVED EQUAL. (PAINT)
14. PANEL MOULDING AS MANUFACTURED BY CENTRAL HARDWOOD, #AWI-12423 3/4" x 1 1/4" OR APPROVED EQUAL. (PAINT)



EAST LOBBY ELEVATION 2/A-8



NORTH LOBBY ELEVATION 1/A-8

PUBLIC LOBBY INTERIOR ELEVATIONS

SCALE 1/4" = 1'-0" - U.N.O.

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NEW CONSTRUCTION FOR:

CHARTER TOWNSHIP OF FORT GRATIOT MUNICIPAL CENTER

3720 KEEWAHDIN ROAD, FORT GRATIOT, MICHIGAN 48059

PROJECT NO.	13003500
DATE	FEBRUARY 4, 2014
AS BUILT DATE	.
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ISSUED FOR:	
BIDDING	FEB. 18, 2014
1 ADDENDUM ONE	FEB. 27, 2014

SHEET NO.

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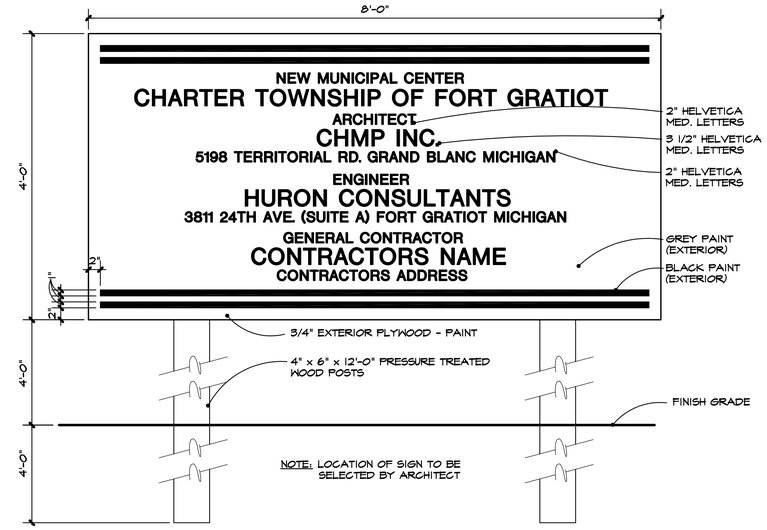
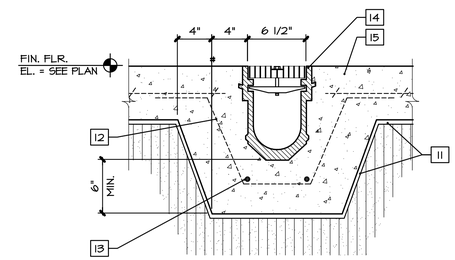
OF 22



SIGN DETAIL (3 / A-16)
NO SCALE



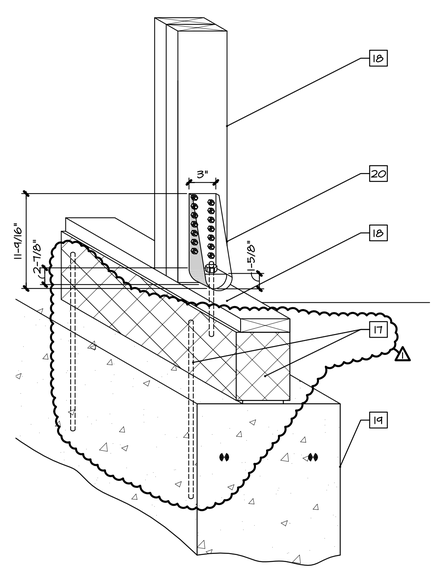
TRECH DETAIL (2 / A-16)

GENERAL NOTES:

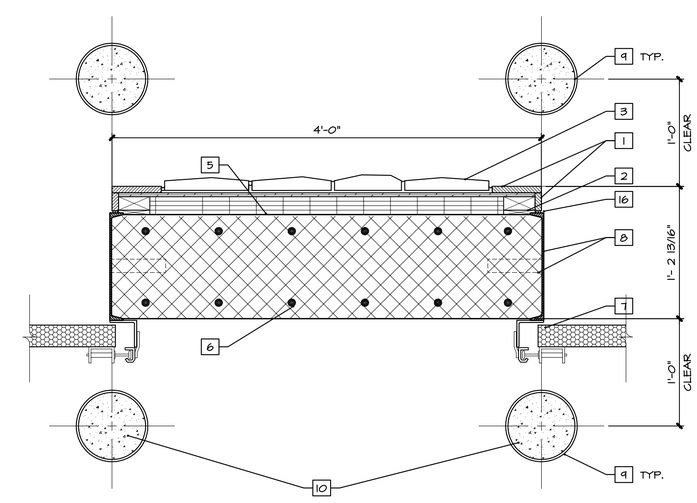
1. REFER TO THE FLOOR PLAN ON SHEET A-1 FOR ALL "WALL TYPES".

REFERENCE NOTES:

1. FIBER CEMENT TRIM
2. WOOD NAILER
3. CULTURED STONE
4. 7/16" O.S.B.
5. CONCRETE MASONRY UNIT BACK-UP WITH 1 1/2" RIGID INSULATION - REFER TO THE FLOOR PLAN ON SHEET A-1 FOR "WALL TYPES"
6. STEEL REINF. - REFER TO STRUCTURAL DRAWINGS
7. OVERHEAD DOOR AND TRACK - REFER TO "SECTIONAL OVERHEAD DOORS" IN SECTION 08361 OF THE SPECIFICATION
8. PREF. 18 GA. ALUM. WRAP OVER MC 12x 10.6 WITH 1 1/2" x 1/8" THICK STEEL STRAP ANCHORS IN SOLID GROUT AT 32" O.C. VERTICALLY - PROVIDE TAPE BOND BREAKER BETWEEN ALUM. WRAP AND STEEL CHANNEL
9. 8" DIA. CONCRETE FILLED STEEL GUARD POST - CENTER GUARD POST TO INSIDE FACE OF MASONRY OPENING
10. CONTRACTOR SHALL COORDINATE LOCATION OF OVERHEAD DOOR EQUIPMENT WITH GUARD POST LOCATIONS
11. VAPOR BARRIER
12. #4 BARS AT 24" O.C.
13. (4) #4 CONT. BARS
14. PREFABRICATED CONT. TRENCH DRAIN UNIT WITH HEAVY DUTY STEEL GRATE COVER - REFER TO MECHANICAL DRAWINGS
15. 6" THICK CONCRETE SLAB WITH (2) LAYERS 6x6 x W2.9xW2.9 W.W.F. REINFORCING ON 6 MIL. VAPOR BARRIER OVER 6" COMPACTED SAND FILL
16. SEALANT AND BACKER ROD
17. 8" CONCRETE MASONRY UNIT WITH No. 5 STEEL DOWELS WITH 15" FTG EMBEDMENT SPACED 48"O.C. AND AT EACH HOLD DOWN LOCATION. (1)
18. CONTINUOUS 2x6 WOOD
19. CONTINUOUS CONCRETE TRENCH FOOTING W/(2) # BARS TOP & BOTTOM- REFER TO STRUCTURAL DRAWINGS
20. REDEFLECTED HOLDOWN. TYPICAL AT CORNERS OF WOOD FRAME CONSTRUCTION. HOLDOWN TO BE SIMPSON STRONG TIE- PHD5 (14 GA.) OR APPROVED EQUAL. USE 14 SDS WOOD SCREWS & 5/8" DIA. ANCHORS. FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS FOR PRODUCT INSTALLATION. REFER TO SHEET S-1.



CORNER WALL SECTION (4 / A-16)



DETAIL (1 / A-16)

DETAILS
SCALE: 1 1/2" = 1'-0"

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