OFFICIAL RECORDS
DOUGLAS COUNTY CO
JACK ARROWSMITH
CLERK & RECORDER
RECORDING FEE: $101.00
11 PGS
2008027592
04/18/2008 02:55 PM


2008027592 11 PGS

PLAT IDENTIFICATION SHEET

✓ New Hope Presbyterian Church U.S.A.

Grantor (owner)

Grantor (owner)

✓ Meadows 21 Final PD Site Plan

Grantee (name of plat or condo)

Grantee (name of plat or condo)

Subdivision Info: Meadows, The Filing: 21 Lot: 1

Condo Info: Phase _____ Bldg _____ Unit _____

✓

34	7	67
Section	Township	Range

Cross Reference numbers: (reception #s or book and page)

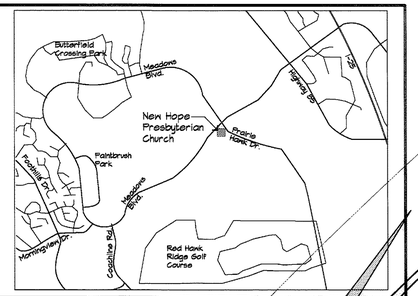
1748/1753	1750/2267	2007098704

THE MEADOWS FILING No. 21 FINAL PD SITE PLAN

A part of the NW 1/4 of Section 34, Township 7 South, Range 67 West of the 6th P.M.
Lot 1, The Meadows Filing No. 21, According to the recorded plat there of.
Town of Castle Rock, Douglas County, Colorado

Cover / Site Plan

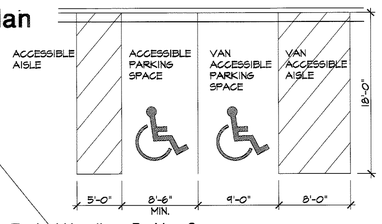
VICINITY MAP



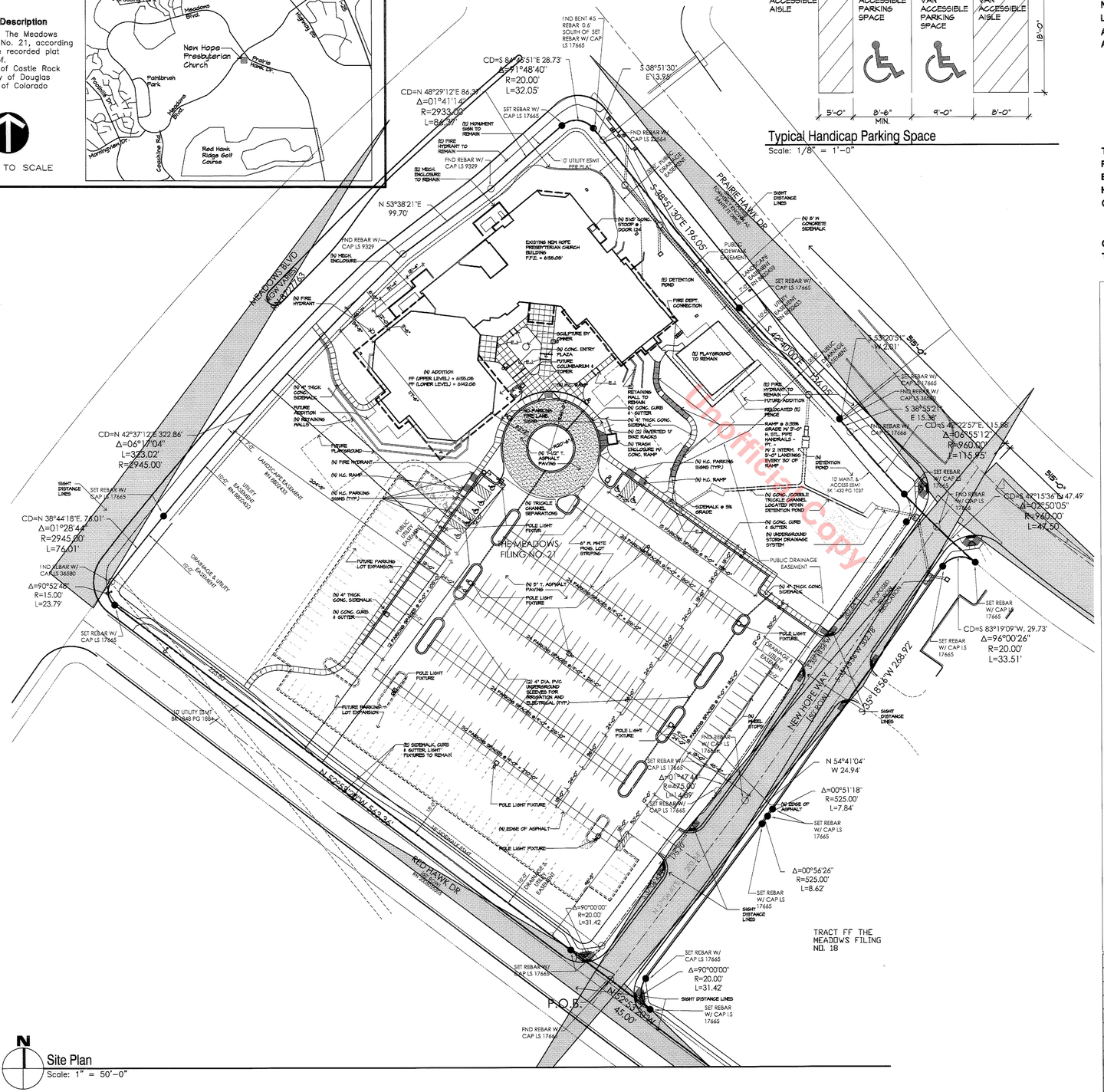
Legal Description

Lot 1, The Meadows Filing No. 21, according to the recorded plat thereof.
Town of Castle Rock
County of Douglas
State of Colorado

NOT TO SCALE



Typical Handicap Parking Space
Scale: 1/8" = 1'-0"



N
Site Plan
Scale: 1" = 50'-0"

PROJECT INFORMATION

Existing fixed seats:	0
New fixed seats provided:	500
Parking Spaces Required:	199
Parking Spaces Provided:	241 Parking Spaces 7 H.C.
Occupancy Classification:	A2.1
Zoning:	Meadows PD/ Multifamily
Construction Type:	Type V One Hour
Number of Stories:	(1) One Story
Land Use Classifications:	Church
Addition Building Height:	44'-9"
Approximate Size:	Lower Level: 16,757 s.f. existing 7,136 s.f. proposed 9,621 s.f. Upper Level: 25,146 s.f. existing 15,525 s.f. proposed 9,621 s.f. Total: 41,903 s.f.

	Phase I		Master Plan	
Total Site Area:	308,081 s.f. (7.07 Acres)			
Parking & Drive Area:	91,160 s.f.	(30%)	127,270 s.f.	(41%)
Building Coverage Area:	25,146 s.f.	(8%)	36,683 s.f.	(12%)
Hardscape Area:	10,098 s.f.	(3%)	10,098 s.f.	(3%)
Open Space Area:	181,103 s.f.	(59%)	134,030 s.f.	(44%)
- Landscaped Area:	30,739 s.f.	(10%)	30,739 s.f.	(10%)
- Irrigated Landscape (60%)				
Completion Date:	Feb. 2008			
Total Water Demand Rate:	1.5 SFE			

GENERAL NOTES

1. The Town of Castle Rock requires that maintenance access be provided to all storm drainage facilities to assure continuous operational capability of the system. The Property Owner, subsequent owners, heirs, successors and assigns shall be responsible for the maintenance of all drainage facilities including, but not limited to, inlets, pipes, culverts, channels, ditches, hydraulic structures, and detention basins located on this property unless modified by the Subdivision Improvements Agreement. Should the Owner fail to adequately maintain said facilities, the Town shall have the right to enter said property for the purposes of operation and maintenance. All such maintenance costs will be assessed to the Property Owner, subsequent owners, heirs successors and assigns. The maintenance costs shall include all actual cost for labor, equipment and materials and a 15% fee.
2. Pursuant to Section 17.62.080 of the Town of Castle Rock Municipal Code, the Owner of the property, subsequent owners, heirs, successors and assigns shall be responsible for the proper maintenance of the area subject to the approved Final PD Site Plan. Landscaping within public right-of-way is to be maintained by the adjacent private property owner of the Homeowners Association, if applicable. Landscaping shall be continuously maintained including necessary watering, weeding, pruning, mowing, pest control, and replacement of dead or diseased plant material. Replacement for dead or diseased plant material shall be the same type of plant material as set forth in the approved Final PD Site Plan; for example, a tree must replace a tree, a shrub must replace a shrub, ground cover must replace ground cover, etc. Upon written notice by the Town, the Owner will have six (6) months to cure of replace damaged of dead landscape material. In the case of diseased landscape material, a shorter compliance period may be specified in said notice. The Town of Castle Rock Water Conservation Ordinance regulates times of seasonal irrigation and prohibits the wasting of potable water through improper irrigation.
3. A note regarding the existence of any FEMA regulated floodplains and wetlands on the site.
4. Any street signs, striping and street lights are conceptual only and subject to Town review with the CDs, These items shall comply with the Town of Castle Rock's regulations, standards and requirements.
5. The Developer shall conform to the Town of Castle Rock 'Water Use Management Program Implementation Policy', as amended from time to time, for this project.
6. Approval of the Final PD Site Plan does not constitute approval of any deviations from Town of Castle Rock regulations and standards. All deviations from town regulations and standards are subject to the appropriate procedures for approval.
7. No Solid object exceeding 30" in height above the flowline elevation of the adjacent street, including but not limited to buildings, utility cabinets, walls, fences, trees, landscape plantings, cut slopes and berms, shall be placed in Sight Distance Easements and shown on this Plan.
8. Per the Meadows Filing No. 21 SIA, the town will be responsible to provide functional maintance to the detention pond, while the property owner will provide ground maintance.
9. Unless noted otherwise, all lots shall have a 10-foot Utility Easement along the front & rear lot lines along all public right-of-way & shall have 5-foot Utility Easements along each side lot line. (This property has only front / rear lot lines. These Utility Easements are for the installation, maintenance & operation of utilites and drainage facilities including, but not limited to, electric lines, gas lines, cable television lines, fiber optic lines and telephone lines, as well as perpetual right for ingress and egress for installation, maintenance & replacement of such lines.

Sheet Index

OWNERSHIP CERTIFICATION

The undersigned are all of the owners of certain lands known herein as Lot 1 The Meadows Filing No. 21 in the Town of Castle Rock.

Ina Lindin

New Hope Presbyterian Church U.S.A – A Colorado non-profit corporation

Signed this 15th day of JANUARY, ~~2007~~ 2008

Diane E. Norton

Notary Public DIANE E. ROBERTS

Signed this 11th day of JANUARY, 2007

LIENHOLDER CERTIFICATE

The undersigned are all the mortgagees and lienholders of certain lands known herein as The Meadows Filing No. 21.

The undersigned beneficiaries of the liens created by the instruments recorded on 8-26-99 in Book 1748 at pages ~~1743 and~~ 1753 (re-recorded on 9-1-99 in Book 1750 at pages ~~2262 and~~ 2267), Douglas County, Colorado, subordinate the subject liens to the terms, conditions and restrictions of this document.

Deed of Trust recorded 12-21-~~2005~~ at Reception No. 2005122490 2007089704

Vectra Bank Colorado, N.A. DATE

By: Gary B. Bailey EX VP / CFO

Presbyterian Church (U.S.A.), a corporation

Signed this 14th day of JAN ~~2007~~ 2008

TITLE CERTIFICATE

I, Brenda Barnes being an authorized representative of Land Title, a title insurance company licensed to do business in the State of Colorado, have made an examination of the public records and state that all owners, mortgagees and lienholders of the property are listed in the certificate of ownership and dedication.

Signed this 23rd day of January, 2007 8

Authorized Representative — Title Insurance Company

Signed this 23rd day of January, 2007 8

Susan I. Rasmussen

Notary Public — DATE

SUSAN I. RASMUSSEN NOTARY PUBLIC STATE OF COLORADO My Commission Expires Sept. 01, 2011

Signed this 23rd day of January, 2007

SURVEYOR'S STATEMENT

I, John L. Swayne, a Registered Professional Land Surveyor in the State of Colorado, do hereby certify that the survey and legal description represented by The Meadows Filing No. 21 Final PD Site Plan was made under my supervision and the monuments shown thereon actually exist and this plat accurately represents that survey.

John L. Swayne R.L.S. No. 17665
Registered Land Surveyor

DOUGLAS COUNTY CLERK & RECORDER'S CERTIFICATE

STATE OF COLORADO)
)SS
COUNTY OF DOUGLAS)

I HEREBY CERTIFY THAT THIS FINAL PD SITE PLAN WAS FILED IN MY OFFICE ON THE 15 DAY OF April, 2007 AT 2:38 O'CLOCK AND WAS RECORDED UNDER RECEPTION NUMBER 2007058154

Christine Davis, Deputy
DOUGLAS COUNTY CLERK & RECORDER

TOWN CERTIFICATION

The MEADOWS FILING NO. 21 FINAL PD SITE PLAN was approved by the town of Castle Rock, Colorado, on the ____ day of 2007.

Director of Development Services — Date

New Hope Presbyterian Church
Project No. 05030.1

The Meadows Filing No. 21, Final PD Site Plan

Owner Address:	**New Hope Presbyterian Church** **2100 W. Meadows Parkway** **Castle Rock, CO 80104** (303)660-0057 F (303)660-1532
Architect Address	**Eidos Architects** **5400 South Syracuse St.** **Greenwood Village, CO. 80231** (720)200-0630 F (720)200-0631
Land Surveyor Address:	**MVE** **1803 LeLaray Street, Suite 200** **Colorado Springs, Colorado 80909** (719)635-5736 F (719)635-5450

Date: **11/15/2006**
Revised: **4/10/07**
Revised: **8/8/07**
Revised: **10/31/07**

Cover / Site Plan
Sheet 1 of 10

THE MEADOWS FILING No. 21 FINAL PD SITE PLAN

A part of the NW 1/4 of Section 34, Township 7 South, Range 67 West of the 6th P.M.
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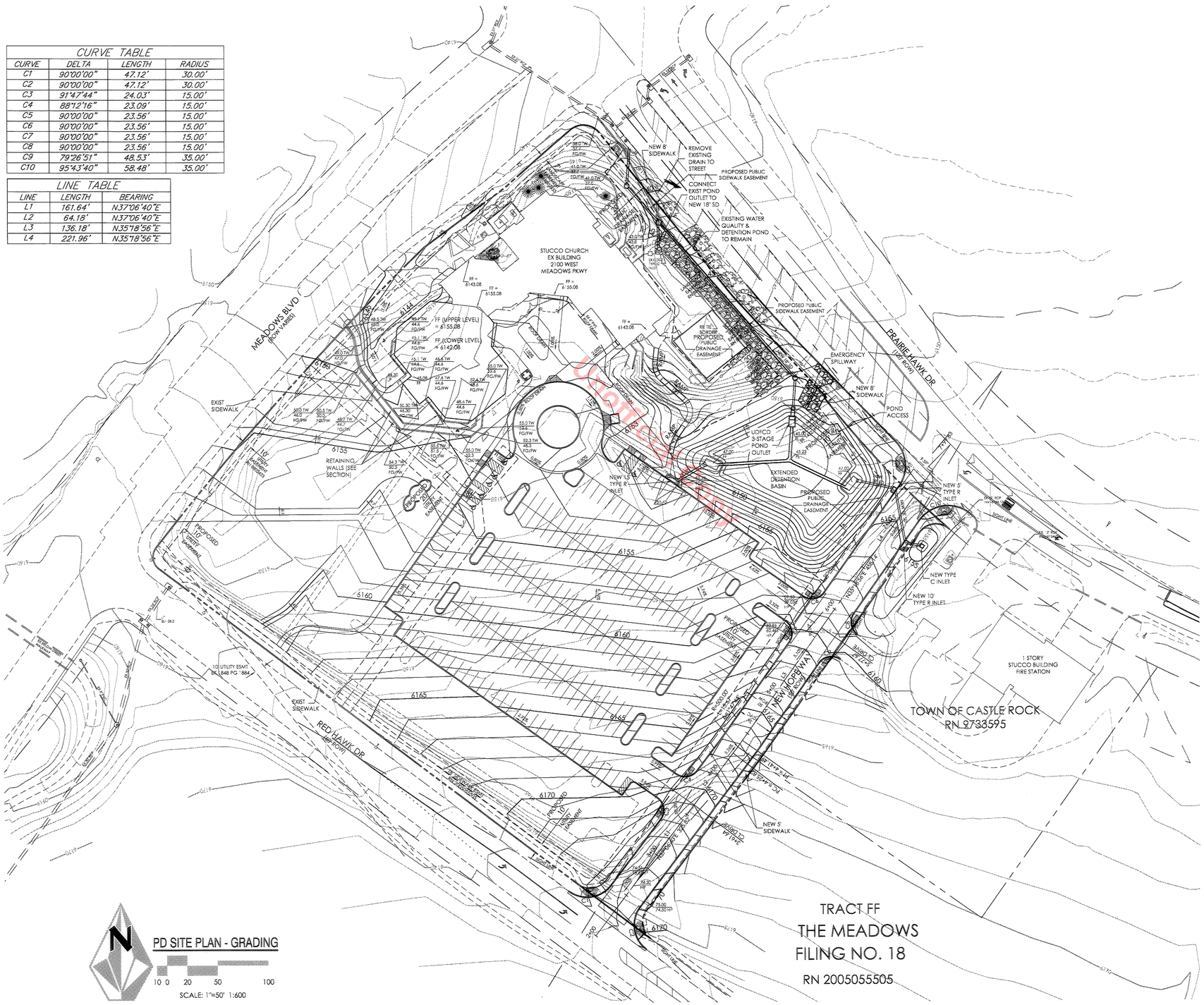
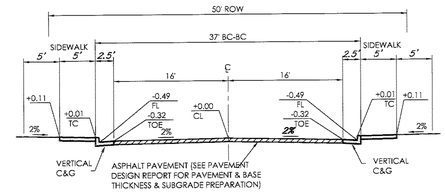
Town of Castle Rock, Douglas County, Colorado

Grading Plan

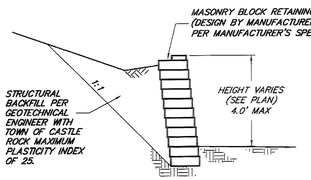
CURVE TABLE			
CURVE	DELTA	LENGTH	RADIUS
C1	90°00'00"	47.12'	30.00'
C2	90°00'00"	47.12'	30.00'
C3	91°47'44"	24.03'	15.00'
C4	88°12'16"	23.09'	15.00'
C5	90°00'00"	23.56'	15.00'
C6	90°00'00"	23.56'	15.00'
C7	90°00'00"	23.56'	15.00'
C8	90°00'00"	23.56'	15.00'
C9	79°26'51"	48.53'	35.00'
C10	95°43'40"	58.48'	35.00'

LINE TABLE		
LINE	LENGTH	BEARING
L1	161.64'	N37°06'40"E
L2	64.18'	N37°06'40"E
L3	136.18'	N35°18'56"E
L4	221.96'	N35°18'56"E





TYPICAL STREET SECTION
NEW HOPE WAY
SCALE: 1" = 10'



RETAINING WALL SECTION
NOT TO SCALE

NOTES:

1. THE MAXIMUM HEIGHT OF ALL PROPOSED RETAINING WALLS ON THE SITE IS 4 FEET.

2. ANY RETAINING WALLS GREATER THAN 4 FEET HIGH SHALL BE DESIGNED BY A COLORADO REGISTERED ENGINEER AND APPROVED BY CASTLE ROCK BUILDING DIVISION

3. TOPSOIL THAT IS REMOVED DURING GRADING OPERATIONS SHALL BE STOCKPILED ONSITE AND CONSERVED FOR USE IN REVEGETATION AND LANDSCAPING DURING THE FINAL PROJECT STAGES.

4. BENCHMARK & DATUM: THE ELEVATION BENCHMARK NGS MARKER "A 355" BEING A BRASS DISK SET IN TOP OF THE NW END OF THE NE HEADWALL OF CONCRETE CULVERT, 10.2 FT N OF CENTERLINE OF UNION PACIFIC RAILROAD TRACKS, 90.6 FT E OF RAILROAD LIGHT SIGNAL NO. 2294 AND 0.8 FT E OF CDOT CARSONITE WITNESS POST IN DOUGLAS COUNTY, COLORADO. ELEVATION = 6050.74 (NAVD 88).

PD SITE PLAN - GRADING
10 0 20 50 100
SCALE: 1"=50' 1:600

New Hope Presbyterian Church
Project No. 05030.1

THE MEADOWS FILING No. 21, FINAL PD SITE PLAN

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(303)660-0057 F (303)660-1532

Architect Address: **Eidos Architects**
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Greenwood Village, CO. 80231
(720)200-0630 F (720)200-0631

Land Surveyor Address: **MVE**
1903 LeLaray Street, Suite 200
Colorado Springs, Colorado 80909
(719)635-5736 F (719)635-5450

Date: **11-15-2006**
Revised: **04-10-2007**
Revised: **08-08-2007**
Revised: **10-31-2007**

Grading Plan
Sheet 2 of 10

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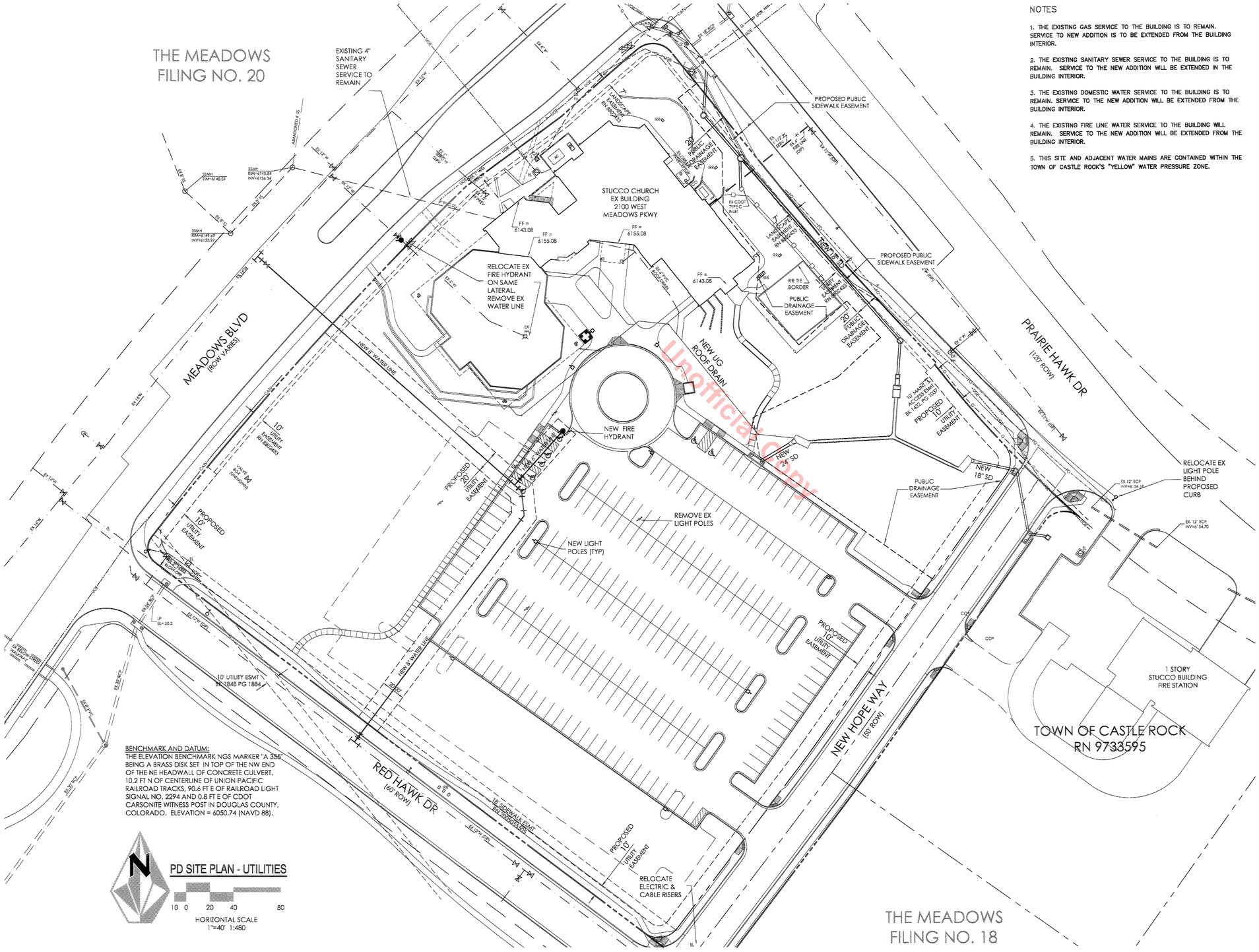
Utilities Plan



BENCHMARK AND DATUM:
THE ELEVATION BENCHMARK NGS MARKER "A 355" BEING A BRASS DISK SET IN TOP OF THE NW END OF THE NE HEADWALL OF CONCRETE CULVERT, 10.2 FT N OF CENTERLINE OF UNION PACIFIC RAILROAD TRACKS, 90.6 FT E OF RAILROAD LIGHT SIGNAL NO. 2294 AND 0.8 FT E OF CDOT CARSONITE WITNESS POST IN DOUGLAS COUNTY, COLORADO. ELEVATION = 6050.74 (NAVD 88).

PD SITE PLAN - UTILITIES

10 0 20 40 80
HORIZONTAL SCALE
1"=40' 1:480

NOTES

1. THE EXISTING GAS SERVICE TO THE BUILDING IS TO REMAIN. SERVICE TO NEW ADDITION IS TO BE EXTENDED FROM THE BUILDING INTERIOR.
2. THE EXISTING SANITARY SEWER SERVICE TO THE BUILDING IS TO REMAIN. SERVICE TO THE NEW ADDITION WILL BE EXTENDED IN THE BUILDING INTERIOR.
3. THE EXISTING DOMESTIC WATER SERVICE TO THE BUILDING IS TO REMAIN. SERVICE TO THE NEW ADDITION WILL BE EXTENDED FROM THE BUILDING INTERIOR.
4. THE EXISTING FIRE LINE WATER SERVICE TO THE BUILDING WILL REMAIN. SERVICE TO THE NEW ADDITION WILL BE EXTENDED FROM THE BUILDING INTERIOR.
5. THIS SITE AND ADJACENT WATER MAINS ARE CONTAINED WITHIN THE TOWN OF CASTLE ROCK'S "YELLOW" WATER PRESSURE ZONE.

LEGEND

EXISTING
- ROW/PROPERTY BOUNDARY LINE
- EASEMENT LINE
- 6155 INDEX CONTOUR
- INTERMEDIATE CONTOUR
- ROCK RIP RAP
- CURB & GUTTER
- DECIDUOUS TREE
- CONIFEROUS TREE
- FENCE LINE
- RETAINING WALL
- UGE UNDERGROUND ELECTRIC LINE
- E ELECTRIC TRANSFORMER
- ELECTRIC VAULT
- LIGHT POLE
- AC AIR CONDITIONING UNIT
- TRAFFIC PULL BOX
- TRAFFIC SIGNAL POLE
- TELEVISION CABLE RISER
- FO FIBER OPTIC LINE
- G GAS LINE
- GM GAS METER
- W WATER LINE
- TEL TELEPHONE PEDISTAL
- WATER VALVE
- FIRE HYDRANT
- IRR IRRIGATION BOX
- SS SANITARY SEWER LINE
- SSMH SANITARY SEWER MANHOLE
- CO* CLEAN OUT
- STORM DRAIN INLET

PROPOSED
- 6160 INDEX CONTOUR
- INTERMEDIATE CONTOUR
- 59.98 / 59.48s TOP OF CURB / FLOW LINE OF CURB (SPILL OR CATCH)
- 55.0 TW / 52.3 FG/FW TOP OF WALL / FINISHED GRADE AT BOTTOM FACE OF WALL
- CURB AND GUTTER
- FENCELINE
- RETAINING WALL
- LIGHT POLE
- 8" PVC WATER LINE
- WATER VALVE
- WATER FITTINGS
- FIRE HYDRANT
- 18" RCP STORM DRAIN LINE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATED INLET
- STORM DRAIN MANHOLE
- STORM DRAIN FLARED END SECTION

New Hope Presbyterian Church
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Utilities Plan
Sheet 3 of 10

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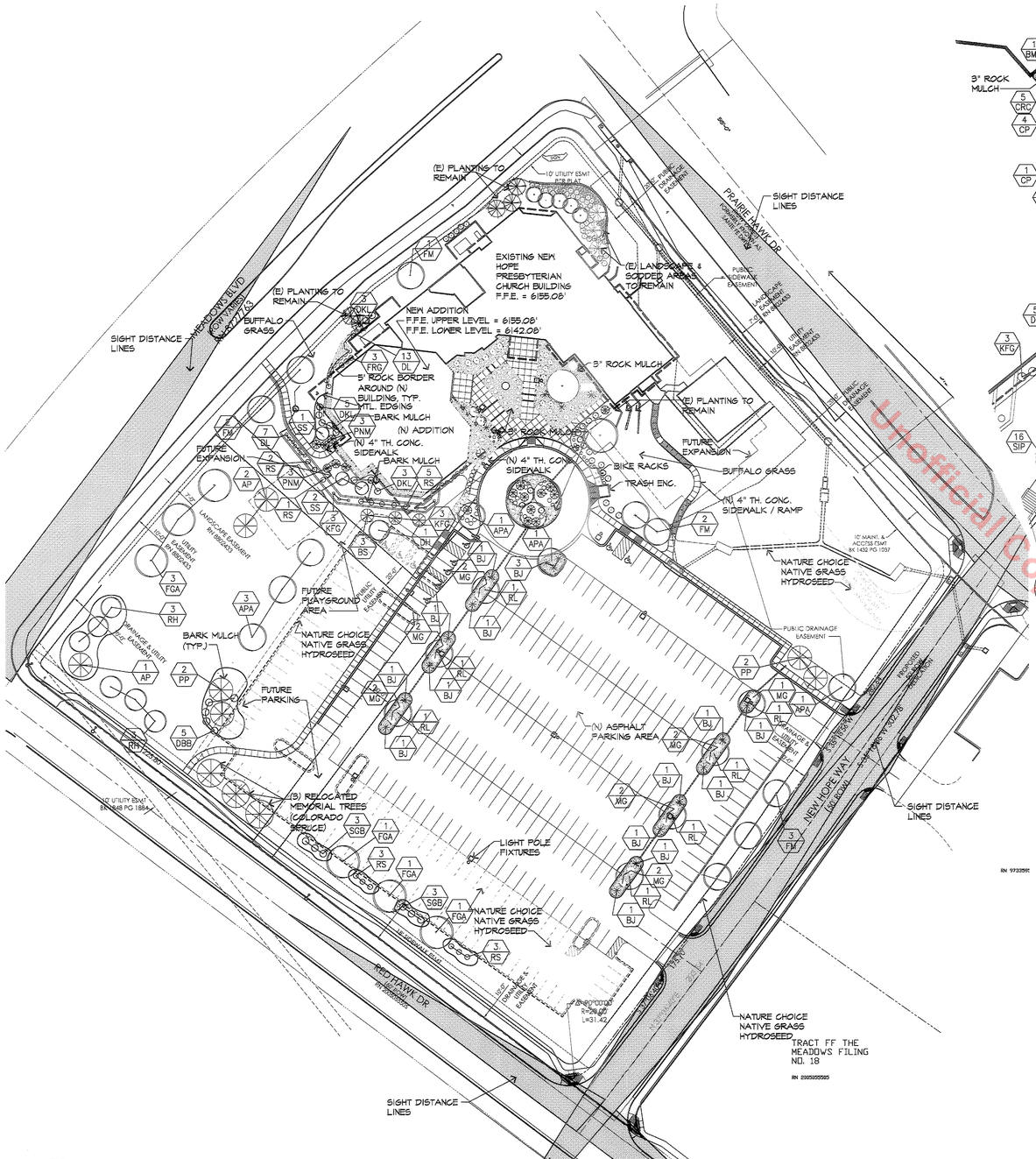
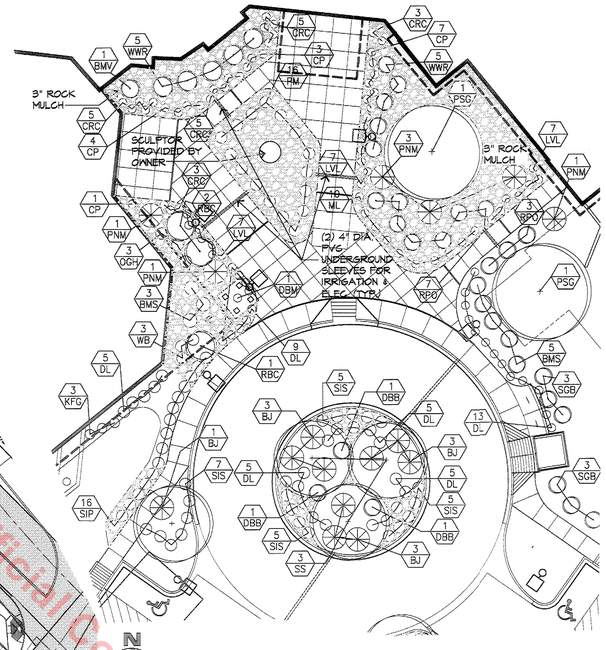


N
Landscape Plan
Scale: 1" = 50'-0"



N
Enlarged Entry Plaza Plan
Scale: 1" = 20'-0"

LANDSCAPE LEGEND

MARK	SYMBOL	QTY	COMMON NAME	BOTANICAL NAME	CONT SIZE	MATURE SIZE HGT x SPRD	WATER DEMAND W D	WATER DEMAND 11/7 SEASON
DECIDUOUS TREES								
·	APA	6	AUTUMN PURPLE ASH	Fraxinus americana 'Autumn Purple'	2 1/2"	50' x 30'	M	3" - 4.5"
·	DH	1	DOUGLAS HAWTHORN (relocated one)	Crataegus douglassii			VL	0" - 1.5"
·	FGA	6	FALL GOLD ASH	Fraxinus nigra 'Fall Gold'	2 1/2"	50' x 30'	M	3" - 4.5"
·	RH	6	RUSSIAN HAWTHORNE	Crataigus ambiqua	6' Clump	15'-25' X 15'-20'	VL	0" - 1.5"
·	FM	7	AUTUMN BLAZE MAPLE	Acerx freemanii 'Autumn Blaze'	2 1/2"	50' X 30'	M	3" - 4.5"
·	SS	6	SHADBLOW SERVICEBERRY CLUMP	Amelanchier canadensis	6' Clump	12' x 10'	M	3" - 4.5"
·	RL	7	REDMOND LINDEN	Tilia americana 'Redmond' Linden	2 1/2"	12' x 10'	M	3" - 4.5"
·	RBC	3	RED BARON CRAB	Malus 'Red Barron'	2 1/2"	15'-18' x 7'-8'	L	1.5 - 3'
·	PSG	2	PURPLE LEAF MAYDAY TREE	Prunus Padus 'Summer Glow'	2 1/2"	20'-30' x 20'-30'	M	3" - 4.5"
EVERGREEN TREES								
⊛	CS	3	COLORADO SPRUCE (RELOCATED)	Picea pungens	6'	60' x 25'	VL	0 - 1.5"
⊛	PP	7	PONDEROSA PINE	Pinus ponderosa	6'	40' x 25'	VL	0 - 1.5"
⊛	AP	3	AUSTRIAN PINE	Pinus nigra	6'	50' x 20'	VL	0 - 1.5"
⊛	BS	3	BAKERI SPRUCE (no substitutions)	Picea pungens 'Bakeri'	6'	30' x 10'	M	3 - 4.5"
EVERGREEN SHRUBS								
⊛	BJ	12	BLUE CHIP JUNIPER	Juniper Horizontalis 'Blue Chip'	5 GAL.	10" x 6'	VL	0 - 1.5"
⊛	OGH	3	COMPACT OREGON GRAPE HOLLY	Mahonia aquifolium compactum	5 GAL.	2-3' x 2-3'	VL	0 - 1.5"
⊛	PNM	12	SLOWMOUND MUGO PINE	Pinus mugo 'Slow Mound'	5 GAL.	3-5' x 5-7'	L	1.5 - 3'
DECIDUOUS SHRUBS								
·	DBB	8	DWARF BURNING BUSH	Euonymus Alatus 'Compactus'	5 GAL.	5' x 4'	M	3 - 4.5"
·	DKL	8	DWARF KOREAN LILAC	Syringa Meyeri	5 GAL.	5' x 5'	L	1.5 - 3'
·	BMS	8	BLUE MIST SPIREA	Caryopteris X Clandonensis	5 GAL.	3' x 3'	L	1.5 - 3'
·	SGB	12	SPANISH GOLD BROOM	Cytisus Purgans 'Spanish Gold'	5 GAL.	4' x 6'	VL	0 - 1.5"
·	WWR	10	WINE AND ROSE WEIGELA	Weigela 'Wine & Roses' florida	5 GAL.	4-5' x 4-5'	L	1.5 - 3'
·	RPO	10	PINK KNOCK-OUT ROSE	Rosa x 'Pink Knock Out'	5 GAL.	2-3' x 3-4'	L	1.5 - 3'
·	BMV	1	BLUE MUFFIN VIBURNUM	Viburnum dentatum 'Blue Muffin'	5 GAL.	3-5' x 3-4'	L	1.5 - 3'
·	RS	14	RUSSIAN SAGE	Perovskia atriplicifolia	5 GAL.	4' x 4'	L	1.5 - 3'
ORNAMENTAL GRASS								
○	FRG	6	FEATHER REED GRASS	Calamagrostis X Acutiflora 'Karl Foerster'	#1, #5	5-6' x 2'	L	1.5 - 3'
○	KFG	6	KOREAN FEATHER REED GRASS	Calamagrostis Brachyricha	#1, #5	5-6' x 2'	L	1.5 - 3'
○	MG	13	MAIDEN GRASS	Miscanthus sinensis 'Gracillimus'			L	1.5 - 3'
PERENNIALS								
○	SIP	16	STARBURST ICE PLANT	Delosperma Floribundum 'Starburst'	#1	2-4" x 12-24"	L	1.5 - 3'
○	PM	16	PANCHITO MANZINITA	Arctostaphylos x coloradoensis	#1	10-15" x 3	L	1.5 - 3'
○	SIS	22	SNOW IN SUMMER	Cerastium Tomentosum	#1	4-8" x 24-36"	L	1.5 - 3'
○	DL	38	DAY LILY	Hemerocallis 'Star of Gold'	#1	24-48" x 36"	L	1.5 - 3'
○	DBM	1	DOUBLE BUBBLE MINT	Agastache Cana	#1	3' - 2'	L	1.5 - 3'
○	CRC	21	CHOCOLATE RUFFLES CORAL BELLS	Heuchera 'Chocolate Ruffles'	#1	24-30" x 24-30"	M	3 - 4.5"
○	CP	15	PLUMABGO	Ceratostigma plumbinoides	#1	18-12" x 18-24"	L	1.5 - 3'
○	LVL	21	LA VETA LACE GERANIUM	Geranium magni florum 'La Veta Lace'	#1	6-10" x 15-20"	M	3 - 4.5"
○	WB	3	WHIRLING BUTTERFLIES WHITE	Gaura lindheimeri	#1	2-3' x 18-24"	M	3 - 4.5"
	-	-	BUFFALO GRASS	-	-	-	-	
	-	-	NATIVE GRASS HYDROSEED	-	-	-	-	
						CLWUR = 2.5" / SEASON		

LANDSCAPE REGISTRATION

Teri Hensen
Landscape Architect

455
Registration #

UNCC

CALL UTILITY NOTIFICATION CENTER OF COLORADO

1-800-922-1987

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

New Hope Presbyterian Church

Project No. 05030.1

Meadows Filing No. 21, Final PD Site Plan

Owner Address: **New Hope Presbyterian Church**
2100 W. Meadows Parkway
Castle Rock, CO 80104
(303)660-0057 F (303)660-1532

Architect Address: **Eidos Architects**
5400 South Syracuse St.
Greenwood Village, CO. 80231
(720)200-0630 F (720)200-0631

Land Surveyor and Civil Engineer Address: **MVE**
1903 LeLaray Street, Suite 200
Colorado Springs, Colorado 80909
(719)635-5736 F (719)635-5450

Date: **11/15/2006**
Revised: **4/10/07**
Revised: **8/8/07**
Revised: **10/31/07**

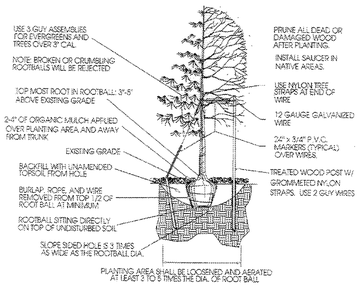
Landscape Plan
Sheet 4 of 10

THE MEADOWS FILING No. 21 FINAL PD SITE PLAN

A part of the NW 1/4 of Section 34, Township 7 South, Range 67 West of the 6th P.M.
Lot 1, The Meadows Filing No. 21, According to the recorded plat there of.
Town of Castle Rock, Douglas County, Colorado

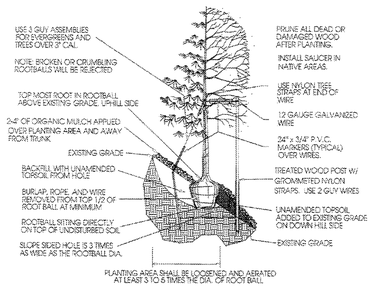
Landscape Details & Notes

PLANTING STANDARDS

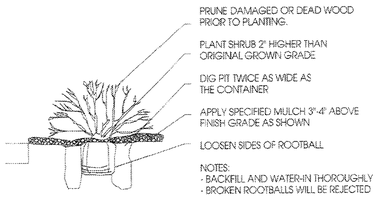


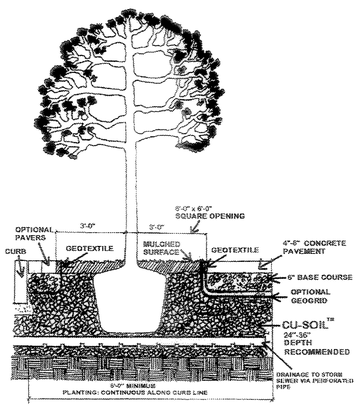
- Excavate planting holes with sloping sides. Do not disturb soil at bottom of planting holes, but do score the sides of the planting hole. Make excavations at least three times as wide as the root ball diameter and less (three to five inches) than the distance from the top most root in the root ball and the bottom of the root ball. The planting area shall be loosened and aerated at least three to five times the diameter of the root ball. Backfill shall consist of existing on site soil – no amendments shall be used unless otherwise specified.
- Trees shall be planted with the top most root in the root ball 3" to 5" higher than the finished landscape grade. This includes trees that are set on slopes (see slope planting detail). Set root ball on undisturbed soil. Trees where the trunk flare is not visible shall be rejected. Do not cover the root ball with soil.
- Cut off bottom ⅓ of wire basket before placing tree in hole, cut off remainder of basket after tree is set in hole, remove basket completely where possible. At a minimum, the top ⅓ of the burlap and basket shall be removed. Remove all nylon ties, twine, rope and burlap as possible. Remove unnecessary packing material.
- Form soil into a 3" to 5" tall watering ring (saucer) around planting area. This is not necessary in irrigated turf areas. Apply 3" to 4" depth of specified mulch inside watering ring.
- Staking and guying of trees is optional in most planting situations. In areas of extreme winds, or on steep slopes, staking may be necessary to stabilize trees. Staking and guying must be removed within 1 year or loss of planting date.
- Tree wrap is not to be used on any new plantings, except in late fall planting situations, and only then after consultation with the Town Arborist.

TREE PLANTING DETAIL - SLOPES



PLANTING DETAIL - SHRUBS





CU STRUCTURAL SOIL

CU Structural Soil is a designed medium which can meet or exceed pavement design and installation requirements while remaining root penetrable and supportive for tree growth. It consists of gap-graded gravels which are made up of crushed stone, clay loam, and a hydrogel stabilizing agent. The materials can be compacted to meet all relevant pavement design requirements yet allow for sustainable root growth. This system essentially forms a rigid, load-bearing stone lattice and partially fills the lattice voids with soil. Structural soil provides a continuous base course under pavements while providing material for tree root growth, shifting design away from individual tree pits, to a designed, root penetrable, high strength, pavement system. An added advantage of using this material is its ability to allow roots to grow away from the wearing surface, thus reducing the potential for sidewalk heaving as well as providing for healthier, long-lived trees.

This system consists of a four to six inch rigid pavement surface, with a pavement opening large enough to accommodate a 40 year or older tree. The opening could be concentric rings of pavers designed for removal as the buttress roots lift them. Below that a six inch base course could be installed and compacted with the material meeting normal regional pavement specifications for the traffic they are expected to experience. The base acts as a root exclusion zone from the pavements surface. A geotextile (weed barrier) segregates the base course from the subbase and extends as an apron emerging around the edges of the concrete. A gap-graded, structural soil material demonstrated to allow root penetration when compacted would be the subbase and area for subsequent tree root growth. This material would be compacted to not less than 95% Proctor density (AASHTO T-99) and possess a California Bearing Ratio greater than 40. The subbase thickness would depend on the depth of sub grade or to a proposed target of 36 inches. This is negotiable, but a 24 inch minimum would be encouraged for the root zone. The sub grade should be excavated to parallel the final grade. Under-drainage must be provided under the structural soil material conforming to approved engineering standard for that region.

The three components of the Structural Soil are mixed in the following proportions by weight:

Crushed Stone (granite or limestone, graded from ¾ to 1 ½", highly angular, with no fines) – 100
Clay Loam – 20 *Hydrogel* – 0.03

In a typical street tree installation of such a structural soil, the potential rooting zone could extend from the building face to curb, running the entire length of the street. This would ensure an adequate volume of soil to meet the long term needs of the tree. Where this entire excavation is not feasible, a trench, running parallel to the curb, eight feet wide and three feet deep would be minimally adequate. Since this profile has adapted the standard surface and base specifications generally in use, less hesitation for engineering approval may result.

There will be a need to ensure moisture recharge and free gas exchange throughout the root zone which is not the entire subbase. The challenge is met by the installation of a three dimensional geo-composite (a geo-grid wrapped in textile one inch thick by eight inches wide) which could be laid above the subbase as spokes radiating from the trunk like fingers. This form of passive irrigation is currently on the testing stage. Other previous surface treatments could also provide additional moisture recharge, as could traditional irrigation.

Planting Details

Scale: N.T.S.

GRASS MIXES

NATURES CHOICE MIX

A MIXTURE DESIGNED FOR AREAS WHERE REGULAR WATERING IS NOT AVAILABLE. IDEAL FOR THOSE ON WELLS OR WATERING RESTRICTIONS WHO CANNOT MAINTAIN MORE TRADITIONAL TYPES OF LAWN GRASSES. THIS MIXTURE FEATURES EPHRAIM CRESTED WHEATGRASS, A DEEP-ROOTED GRASS FOUND GROWING NATURALLY THROUGHOUT THE ROCKY MOUNTAIN REGION AND WESTERN GREAT PLAINS. WITHSTANDS HEAT AND DROUGHT.

COLOR / TEXTURE

MEDIUM GREEN COLOR
MEDIUM TEXTURE

SEEDING RATE

70% EPHRAIM CRESTED WHEATGRASS
20% HARD FESCUE
10% PERENNIAL RYE GRASS

LIGHT / SOIL

THRIVES IN FULL SUN
PERFORMS WELL ON MANY SOIL TYPES

ESTABLISHMENT RATE

GERMINATES IN 14 TO 21 DAYS WITH PROPER MOISTURE

FOOTHILLS MIX

A MIXTURE DEVELOPED FOR ELEVATIONS OF 3,000 TO 8,000 FEET TO PROVIDE NATURAL COVER UNDER DRYLAND CONDITIONS. CONTAINS BOTH COOL AND WARM SEASON GRASSES ADAPTED TO THE WESTERN GREAT PLAINS AND SOUTHWEST REGIONS. HAS EXCELLENT COLD AND DROUGHT TOLERANCE. GOOD FOR SOIL STABILIZATION ON POOR SOILS.

SEEDING RATE

15% CRESTED WHEATGRASS
15% SLENDER WHEATGRASS
20% ANNUAL RYE GRASS
10% SIDE OATS GRAMMA
15% HARD FESCUE
10% PUBESCENT WHEATGRASS
5% YELLOW INDIAN GRASS
5% BLUE GRAMMA
5% SWITCH GRASS

LANDSCAPE NOTES:

THIS PLAN WAS DRAWN ACCORDING TO INFORMATION RECEIVED FROM THE OWNER. ANY DISCREPANCIES IN THE LOT LAYOUT AND OTHER PERTINENT INFORMATION TO THE DESIGN ARE NOT THE RESPONSIBILITY OF THE LANDSCAPE ARCHITECT.

IF ANY DISCREPANCY OCCURS BETWEEN THE PLANT LIST AND THE PLAN, THE PLAN SHALL GOVERN.

CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS. REFERENCE THE SITE PLAN & UTILITY PLAN FOR UTILITY LOCATION.

THE LANDSCAPE CONTRACTOR AND IRRIGATION CONTRACTOR MUST BE REGISTERED CONTRACTORS BY THE TOWN OF CASTLE ROCK.

PLANTS SELECTED IN THIS PLAN ARE LISTED IN THE TOWN OF CASTLE ROCK RECOMMENDED PLANTS. THEY ARE LOW WATER REQUIREMENT PLANTS AND ARE HARDY TO THIS CLIMATE.

WESTERN RED CEDAR MULCH SHALL BE USED IN LANDSCAPE BEDS WHERE INDICATED IN THE PLAN. MULCH SHALL BE 4" DEPTH OVER LANDSCAPE FABRIC.

4-6" BROWN RIVER ROCK SET IN PEA GRAVEL OVER LANDSCAPE FABRIC SHALL BE USED IN LANDSCAPE BEDS AS INDICATED ON THE PLAN.

GREEN PAINTED ROLL TOP W/STAKE EDGING SHALL BE USED IN LANDSCAPE AREAS SEPARATING LAWN/GRASS AREAS FROM LANDSCAPE BEDS.

TREES AND SHRUBS SHALL BE PLANTED PER COLORADO NURSERYMAN'S ASSOCIATIONS RECOMMENDATIONS. REMOVE WIRE BASKETS FROM THE TOP 2/3 OF THE ROOT BALL AND CUT AND REMOVE ALL TWINE AND BURLAP FROM THE TRUNK OF THE TREES. REFER TO PLANTING DETAIL SHEET.

TREES SHALL BE PLANTED 4" ABOVE FINISH GRADE AND THE HOLES SHALL NOT BE DUG DEEPER THAN THE ROOT BALL OF THE TREE.

TREES PLANTED IN GRASS AREAS SHALL HAVE CEDAR MULCH RINGS, MINIMUM OF 2' DIAMETER.

SHRUBS AND PERENNIALS SHALL BE PLANTED AT THE EXISTING SOIL LEVEL IN THE CONTAINER OR 1" HIGHER. HOLES SHALL NOT BE DUG DEEPER.

BACKFILL FOR PLANTS WILL BE1/3-1/2 OF THE ORGANIC PLANTERS MIX AND 2/3-1/2 OF EXISTING SOIL.

TREES IN WIND EXPOSED AREAS SHALL BE STAKED ACCORDING TO COLORADO NURSERYMAN'S RECOMMENDATIONS. STAKES SHALL BE REMOVED IN 1 YEAR.

SOIL SHALL BE PREPARED ACCORDING TO THE TOWN OF CASTLE ROCK'S REQUIREMENTS. MINIMUM SOIL AMENDMENT FOR TURF AREAS SHALL BE 3 CUBIC YARDS OF ORGANIC MATTER PER 1,000 SQ. FT. AND SHALL BE TILLED TO A DEPTH OF 4-6 INCHES. RESULTS OF PROFESSIONAL SOIL TEST MAY VARY THIS APPLICATION.

A SOIL ANALYSIS SHALL BE CONDUCTED FOR THE PROPERTY BY A PROFESSIONAL SOIL SCIENTIST TO DETERMINE SOIL CONDITIONS AND RECOMMENDATIONS FOR SOIL AMENDMENTS AND FERTILIZATION NEEDS.

THE LANDSCAPE CONTRACTOR SHALL INSURE A MINIMUM OF 1% POSITIVE DRAINAGE AWAY FROM THE FOUNDATION IN LANDSCAPE AREAS.

THE CONTRACTOR(S) SHALL PROVIDE OWNER WITH WRITTEN INSTRUCTIONS FOR PRELIMINARY MAINTENANCE OF THE LANDSCAPE.

THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A MINIMUM OF 12 MONTHS FROM THE DATE OF SUBSTANTIAL COMPLETION. THIS GUARANTEE EXCLUDES ACTS OF MOTHER NATURE, DAMAGE FROM ANIMALS AND VANDALISM.

NATIVE GRASS SEED WILL BE USED FOR NON-IRRIGATED AREAS AS INDICATED ON PLAN, ACCORDING TO TOWN OF CASTLE ROCK'S RECOMMENDATION, AND BE APPLIED WITH HYDRO MULCH.

'NATURES CHOICE' SOD WILL BE USED FOR SOD AREAS.

REFER TO IRRIGATION PLAN AND NOTES FOR INFORMATION ON IRRIGATION SYSTEM REQUIREMENTS AND LAYOUT.

TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.

'NATURES CHOICE' SEED MIX WILL BE USED FOR IRRIGATED TURF AREAS, INCLUDING TEMPORARY IRRIGATED AREA AS INDICATED ON PLAN. 'FOOTHILLS MIX' WILL BE USED IN NON-IRRIGATED AREA. PLEASE REFER TO SEED MIX SPECIFICATIONS AS THEY WILL BE CUSTOMIZED TO ELIMINATE ANY BLUEGRASS.

ALL SEED WILL BE APPLIED AT 50#/ACRE, DRILL SEEDED, WITH CRIMPED STRAW MULCH. PLEASE NOTE: NATIVE GRASS SEED GERMINATES SLOWLY. 12-14 BLADES/SQ. FT. IS CONSIDERED GOOD GERMINATION DURING ESTABLISHMENT AND WATER SCHEDULE MAY VARY DEPENDING ON NATURAL PRECIPITATION.

ESTABLISHMENT FOR ALL IRRIGATED TURF AREAS SHALL REQUIRE 1"/WEEK OF SUPPLEMENTAL IRRIGATION (REFER TO WATER USE CHART ON IRRIGATION PLAN) AND WILL BE ALLOWED 1.5"/WEEK MAX. SUPPLEMENTAL IRRIGATION PER T.O.C.

AFTER ESTABLISHMENT OF TURF, SEASONAL PROPOSED INCHES/WEEK FOR IRRIGATED TURF AREAS IS .5".

ALL PLANTS SHALL MEET LANDSCAPE NURSERY STANDARDS.

MAINTENANCE OF LANDSCAPED AREAS SHALL MEET TOWN OF CASTLE ROCK'S REQUIREMENTS.

NO TREES OR PERMANENT STRUCTURES ARE ALLOWED IN UTILITY AND DRAINAGE EASEMENTS.

LANDSCAPE SUMMARY

		Square Footage	Percentage
	Total Landscape Area:	30,739	10%
	Irrigated Turf:	-	-
	Living Ground Cover:	23,055sf	75% of Lanscape Area
	Non-Living Ground Cover:	7,684sf	25% of Landscape Area
	Wood Mulch:	0sf	0%
	Rock:	7,684sf	100%
	Non-Disturbed Areas:	73,736sf	24% of Site
	Totals:		
	Required Trees / Shrubs:	60 / 120	-
	Provided Trees / Shrubs:	73 / 297	-

New Hope Presbyterian Church
Project No. 05030.1
Meadows Filing No. 21, Final PD Site Plan

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Landscape Details & Notes
Sheet 5 of 10

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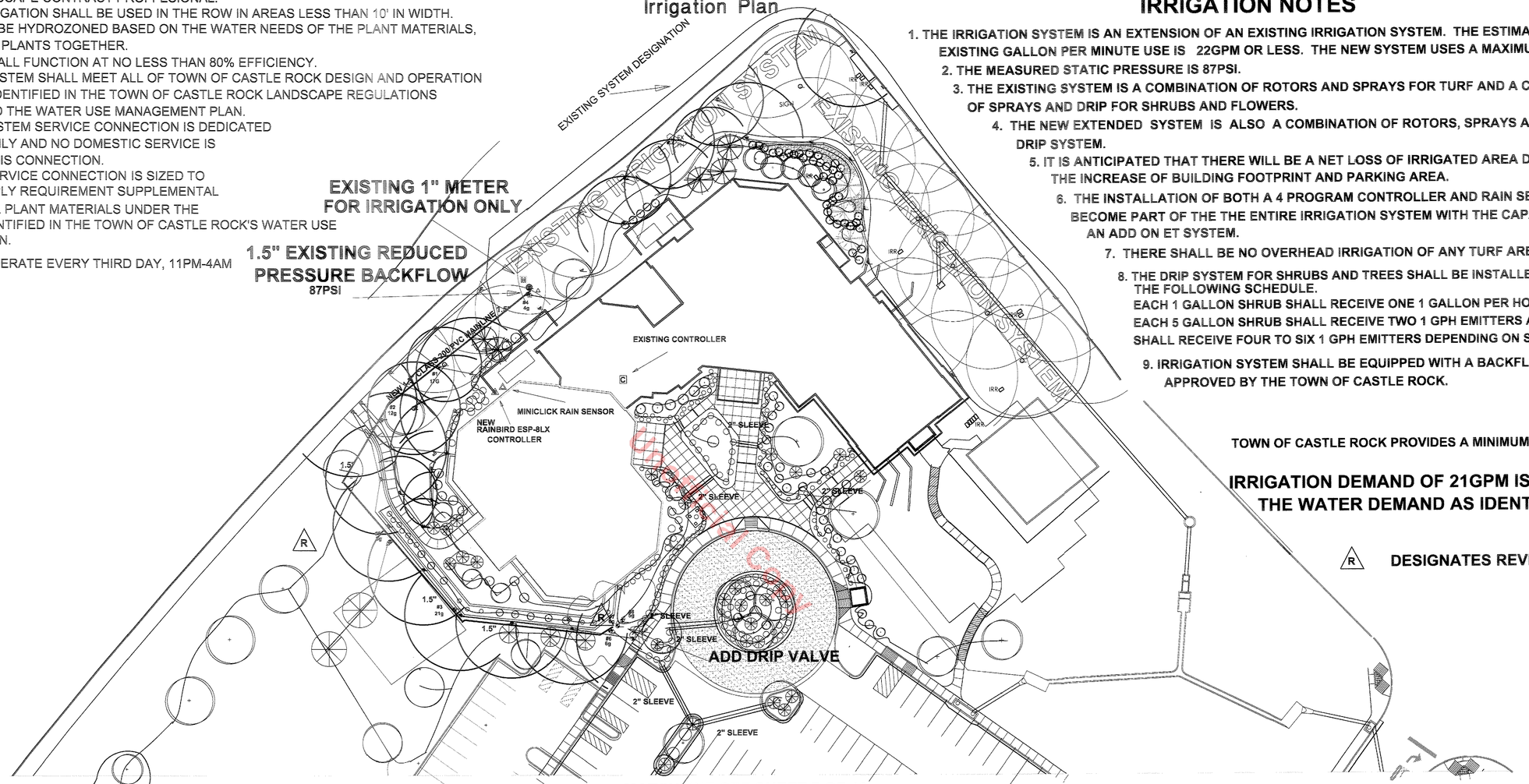
ADDITIONAL NOTES

THE IRRIGATION SHALL BE INSTALLED BY A TOWN OF CASTLE ROCK REGISTERED LANDSCAPE CONTRACT PROFFESIONAL.
NO OVERHEAD IRRIGATION SHALL BE USED IN THE ROW IN AREAS LESS THAN 10' IN WIDTH.
IRRIGATION SHALL BE HYDROZONED BASED ON THE WATER NEEDS OF THE PLANT MATERIALS, GROUPING SIMILAR PLANTS TOGETHER.
THE IRRIGATION SHALL FUNCTION AT NO LESS THAN 80% EFFICIENCY.
THE IRRIGATION SYSTEM SHALL MEET ALL OF TOWN OF CASTLE ROCK DESIGN AND OPERATION PARAMETERS, AS IDENTIFIED IN THE TOWN OF CASTLE ROCK LANDSCAPE REGULATIONS AND PRICIPLES AND THE WATER USE MANAGEMENT PLAN.
THE IRRIGATION SYSTEM SERVICE CONNECTION IS DEDICATED FOR IRRIGATION ONLY AND NO DOMESTIC SERVICE IS SUPPLIED FROM THIS CONNECTION.
THE IRRIGATION SERVICE CONNECTION IS SIZED TO ADEQUATELY SUPPLY REQUIREMENT SUPPLEMENTAL IRRIGATION TO ALL PLANT MATERIALS UNDER THE PARAMETERS IDENTIFIED IN THE TOWN OF CASTLE ROCK'S WATER USE MANAGEMENT PLAN.

SYSTEM SHALL OPERATE EVERY THIRD DAY, 11PM-4AM

Irrigation Plan



IRRIGATION NOTES

1. THE IRRIGATION SYSTEM IS AN EXTENSION OF AN EXISTING IRRIGATION SYSTEM. THE ESTIMATED EXISTING GALLON PER MINUTE USE IS 22GPM OR LESS. THE NEW SYSTEM USES A MAXIMUM OF 21GPM.
2. THE MEASURED STATIC PRESSURE IS 87PSI.
3. THE EXISTING SYSTEM IS A COMBINATION OF ROTORS AND SPRAYS FOR TURF AND A COMBINATION OF SPRAYS AND DRIP FOR SHRUBS AND FLOWERS.
4. THE NEW EXTENDED SYSTEM IS ALSO A COMBINATION OF ROTORS, SPRAYS AND DRIP SYSTEM.
5. IT IS ANTICIPATED THAT THERE WILL BE A NET LOSS OF IRRIGATED AREA DUE TO THE INCREASE OF BUILDING FOOTPRINT AND PARKING AREA.
6. THE INSTALLATION OF BOTH A 4 PROGRAM CONTROLLER AND RAIN SENSOR SHALL BECOME PART OF THE THE ENTIRE IRRIGATION SYSTEM WITH THE CAPABILITY OF AN ADD ON ET SYSTEM.
7. THERE SHALL BE NO OVERHEAD IRRIGATION OF ANY TURF AREA LESS THAN 10'.
8. THE DRIP SYSTEM FOR SHRUBS AND TREES SHALL BE INSTALLED AS PER THE FOLLOWING SCHEDULE.
   EACH 1 GALLON SHRUB SHALL RECEIVE ONE 1 GALLON PER HOUR(GPH) EMITTER.
   EACH 5 GALLON SHRUB SHALL RECEIVE TWO 1 GPH EMITTERS AND EACH TREE SHALL RECEIVE FOUR TO SIX 1 GPH EMITTERS DEPENDING ON SIZE AND TYPE.
9. IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A BACKFLOW PREVENTER APPROVED BY THE TOWN OF CASTLE ROCK.

TOWN OF CASTLE ROCK PROVIDES A MINIMUM OF 43PSI

IRRIGATION DEMAND OF 21GPM IS WITHIN THE WATER DEMAND AS IDENTIFIED

R DESIGNATES REVISION 8-8-07

Irrigation

Quantity	Symbol	Description	Part Number
23	○	HUNTER I-20	
3	△	RAINBIRD #44LVC QUICK COUPLER	
1		Febco 825- 1"	850 - 1"
3		Rain Bird 100-PEB	100-PEB
1		Rain Bird 200-PEB	200-PEB
4		Rain Bird XCZ-075	XCZ-075
1		Rain Bird ESP-8LXi Plus	ESP-8LXi Plus
1		Hunter WIRELESS RAIN-CLIK	WIRELESS RAIN-CLIK

General

Quantity	Symbol	Description	
5100	____	DRIP	3/4" UV POLYETHELENE
800	____	LATERAL	80LB NSF POLYETHYLENE 1" UNLESS NOTED
5300	____	MAINLINE	CLASS 200 PVC 1.5"
450	____	SLEEVES	CLASS 200 PVC SIZE AS NOTED

QUANTITIES ARE ESTIMATES ONLY

TOTAL IRRIGATED AREA IS APPROXIMATELY 35,000 SQFT
ANNUAL WATER USE FOR IRRIGATION IS APPROC 317,000 GALLONS
AVERAGE WATER USE PER CYCLE IS 4402 GALLONS
APPLICATION RATE IS .50IN/HR FOR ROTORS AND 1.85"/HR FOR SPRAYS
NATIVE AREAS TO RECEIVE AVERAGE 1" PER WEEK DURING THE 8 WEEK ESTABLISHMENT PERIOD

SITE IS A SQUARE WATER DESIGNATION

R CHANGE SCALE

1" = 30'

IRRIGATION PLAN BY

WATER ENGINEERING INC
17897 W. 53RD DR.
GOLDEN, CO 80403
303-618-6307 303-271-0026
TOM CARROLL TCR #4180
CARROLLEMAIL@AOL.COM

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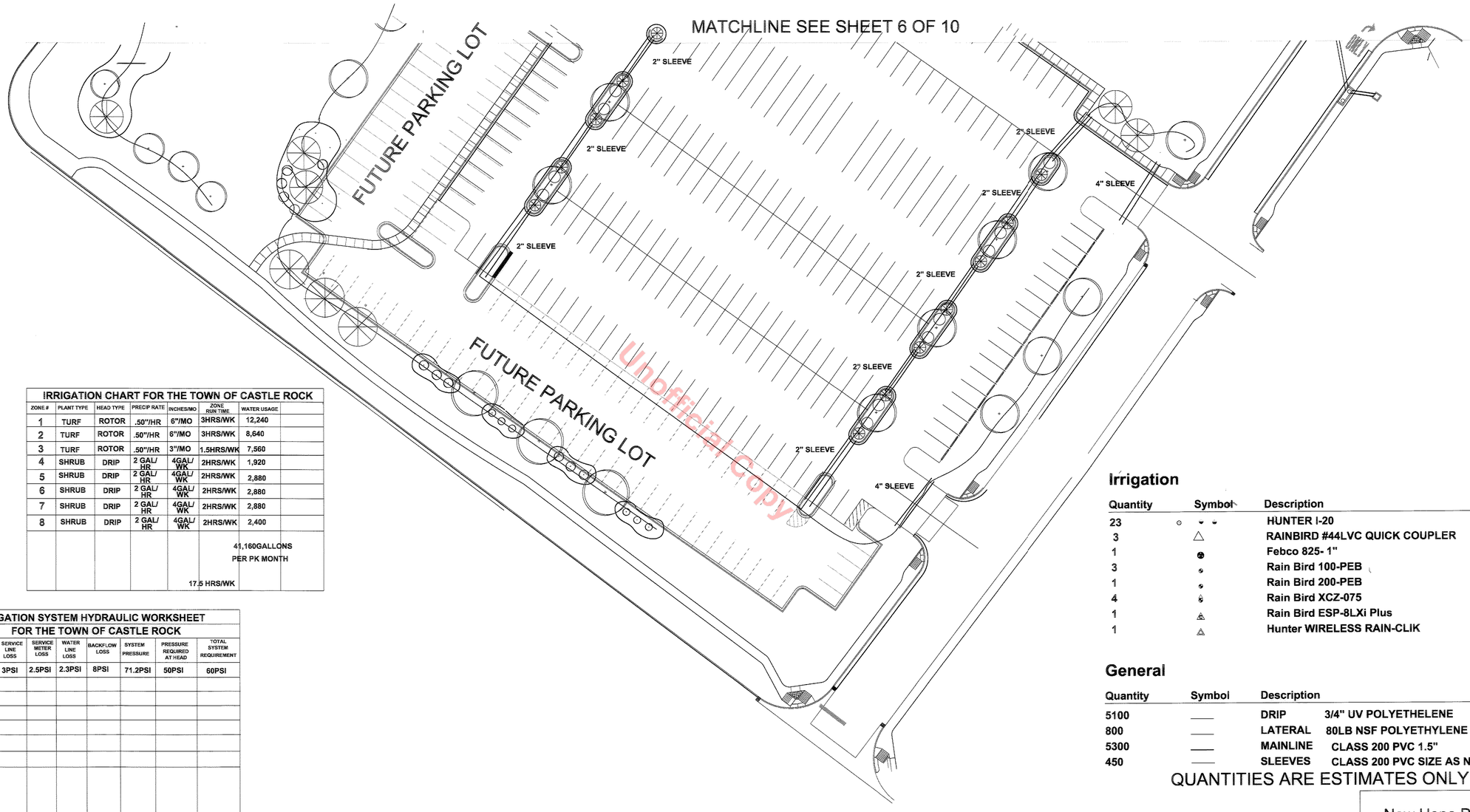

IRRIGATION CHART FOR THE TOWN OF CASTLE ROCK							
ZONE #	PLANT TYPE	HEAD TYPE	PRECIP RATE	INCHES/MO	ZONE RUN TIME	WATER USAGE	
1	TURF	ROTOR	.50"/HR	6"/MO	3HRS/WK	12,240	
2	TURF	ROTOR	.50"/HR	6"/MO	3HRS/WK	8,640	
3	TURF	ROTOR	.50"/HR	3"/MO	1.5HRS/WK	7,560	
4	SHRUB	DRIP	2 GAL/ HR	4GAL/ WK	2HRS/WK	1,920	
5	SHRUB	DRIP	2 GAL/ HR	4GAL/ WK	2HRS/WK	2,880	
6	SHRUB	DRIP	2 GAL/ HR	4GAL/ WK	2HRS/WK	2,880	
7	SHRUB	DRIP	2 GAL/ HR	4GAL/ WK	2HRS/WK	2,880	
8	SHRUB	DRIP	2 GAL/ HR	4GAL/ WK	2HRS/WK	2,400	
						41,160GALLONS PER PK MONTH	
					17.5 HRS/WK		

IRRIGATION SYSTEM HYDRAULIC WORKSHEET FOR THE TOWN OF CASTLE ROCK								
TAP SIZE	POC STATIC PRESSURE	SERVICE LINE LOSS	SERVICE METER LOSS	WATER LINE LOSS	BACKFLOW LOSS	SYSTEM PRESSURE	PRESSURE REQUIRED AT HEAD	TOTAL SYSTEM REQUIREMENT
1"	87PSI	3PSI	2.5PSI	2.3PSI	8PSI	71.2PSI	50PSI	60PSI

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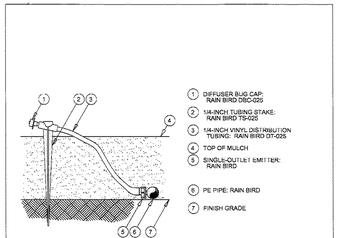
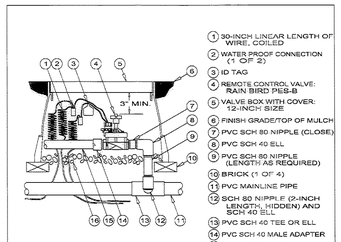
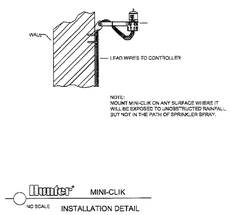
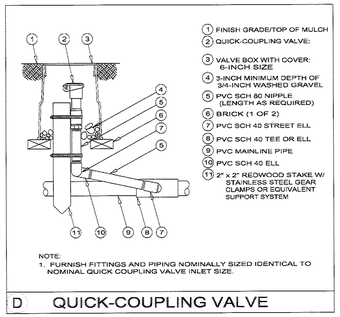


D EMITTER INTO XERI-TUBE

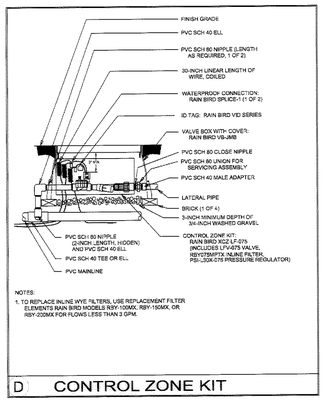


D REMOTE CONTROL VALVE

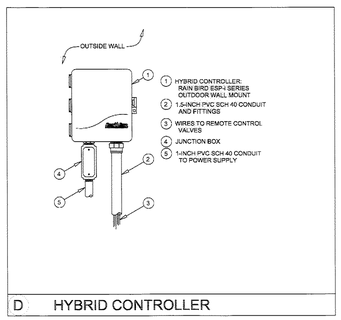




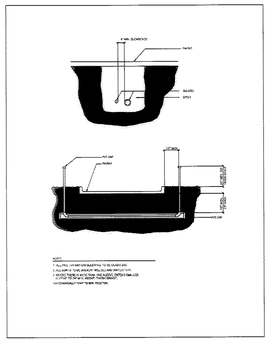
D QUICK-COUPLING VALVE



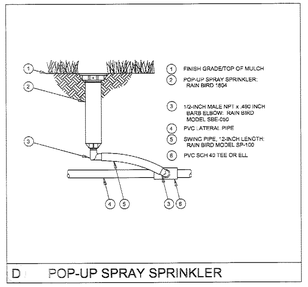
D CONTROL ZONE KIT



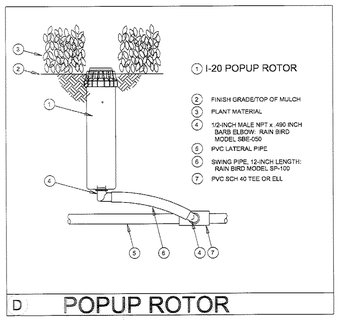
D HYBRID CONTROLLER



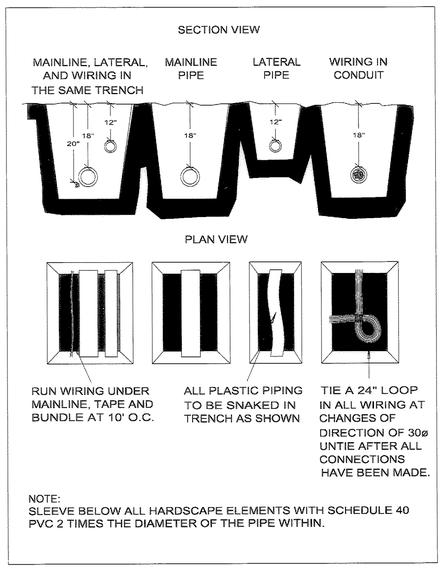
IRRIGATION SLEEVING



D POP-UP SPRAY SPRINKLER



D POPUP ROTOR



PIPE & WIRE TRENCHING

IRRIGATION SPECIFICATIONS

IRRIGATION SYSTEM GENERAL

A. Scope of Work: Work of this section covers the supply, installation and design of the irrigation system, and consists of furnishing all labor, material, equipment, and incidentals necessary and required for performing all operations in connection with the installation of the system. Include all related items as required by the drawings, the performance standards and other requirements for a complete and satisfactory installation. An irrigation design shall be submitted to the Architect for approval prior to the start of any work.

Quality Assurance: Installation of the system shall insure the following performance and quality: The system shall provide total coverage and give a minimum of 1 1/2" of water per week in sod areas. The planting bed areas containing shrubs, trees, etc., shall receive a minimum of 1/2 inch water per week. The system shall be capable of 100% automatic operation, with controller(s), and underground automatic control valves. The mainline shall be drainable to prevent any damage from freezing. The system shall be installed so that the entire system can be blown out for winterization.

Job Conditions: The Irrigation Subcontractor shall be responsible for verifying the actual jobsite conditions and the available water pressure.

IRRIGATION MATERIALS/GENERAL REQUIREMENTS

General: All material furnished to be incorporated into work shall be new and free from defects of materials. All materials shall be guaranteed by the manufacturer and contractor for at least one year against defects and faulty workmanship.

Sleeving: All irrigation pipe, including mainline and laterals, as well as all wiring passing under hard surfaces such as concrete or asphalt, shall be encased in Class 160 P.V.C. sleeving sized appropriately to accommodate pipe and wiring. all sleeving shall be buried a minimum of 24 inches from the top of the pavement and compacted to the same density as the surrounding soil.

Pipe-Pressurized Mainline: Polyvinyl Chloride (PVC) Pipe shall be ASTM D 2231 or Commercial Standard CS256, Type I, CLASS 200 (SDR21) as applicable. All pipe shall bear the National Sanitation Foundation's seal of approval. It shall be continuously and permanently marked as to grade and manufacturer.

Pipe-Lateral Lines: All lines not under continuous pressure, such as lateral line shall be Class 200 or approved equal. U.V. resistant pipe shall be used in all shrub beds, staked with 10 ga x 6" staples 3-6" depth, and 12" depth in dryland turf areas.

E. Mainline Fittings: Plastic pipe joints shall be molded fittings manufactured of the same material as the pipe and shall be suitable for solvent weld.

F. Lateral Line Fittings: Sch 40 plastic pipe joints shall be molded fittings manufactured of the same material as the pipe and shall be suitable for solvent weld.

G. Sprinkler Risers: Risers for pop-up on lateral pipe shall be Schedule 80PVC pipe or swing pipe.

IRRIGATION SYSTEM MATERIAL

A. Sprinkler Heads: "Rainbird" - 1804 SAM-PRS
HUNTER I-20

Swing joints are required on all rotary heads. Shrub beds shall be watered using "Rainbird" Raindrop Emitters. Install two nozzles per shrub, and four per tree in shrub bed areas. SEE SCHEDULE

B. Electrical Solenoid Control Valves: Electrical solenoid control valves shall be Rainbird PEB Series. They shall be compatible with other elements of the system to insure intended operation and function.

C. Manual Drain Valves: Manual drain valves shall be used at low points on all pressure lines. Valves shall be "Buckner Figure" 80k, "Nibco", "Feloco", "Rainbird" or equal, with cross handles for key operation. A valve sleeve of 2" PVC plastic and valve cap shall be used to mark

D. Quick Coupler Valves: At eight locations around the site install a quick coupler valve. Locations to be approved by Architect. The body shall be of cast brass construction with 150 PSI working pressure and of 2 piece construction. Coupler shall be heavy cast brass with cast LUGS AND BE 1" IN SIZE. RAINBIRD 44LVC

E. Wire: Wiring from the electric valves to the control is to be run in the same trench as the sprinkler pipe; 24 volt wiring by Subcontractor. Wire shall be Type UF with 4/64" insulation which is UL approved for direct underground burial for Class II circuits. A single wire to each solenoid and a common wire to all solenoids from the control shall serve as the power supply. Wire size shall be 14-1 gauge for all common wiring and 14-1 gauge for all control wiring of valves and controller. Wiring shall be governed by the requirements of all local, state and national codes. dry splice wire connectors shall be used.

F. Valve Boxes: Valve boxes shall be"Ametek" or Carson or equal. Valve boxes shall be a minimum of 10" in diameter, and a minimum of 10" deep, polyethylene plastic with lid and locking device. If valves are deep, valve box extenders shall be included to provide proper depth.

G. Irrigation Controller: Irrigation controllers shall beRAINBIRD ESP-8LX Series or as noted on plan. The controller shall be compatible with the electric valves and other elements of the system.

H. Backflow Prevention Device: Backflow prevention device shall be located on the sprinkler side of the gate valve controlling water from the main in is installed by others. (RP type devices)

I. Drain Sumps: Use 3/4" diameter washed river gravel of volume specified for all drain sumps under drain valves, valve boxes, etc.

3.1 IRRIGATION SYSTEM INSTALLATION

A. General Requirements: Work shall be performed in accordance with the best standards of practice relating to the various trades and under continuous supervision of a competent foreman capable of interpreting drawings and specifications.

B. Clean-up: All surplus and useless material resulting from this work shall be removed from the site by the Subcontractor. The Subcontractor shall confine his operations to the areas to be improved. During the progress of the work, the Subcontractor shall keep the site as clean and free of rubbish as possible and observe all required safety procedures.

C. Material Handling: Pipe and accessories shall be handled in such a manner as to insure delivery to the site in a sound and undamaged condition. Joint packing shall be protected from contamination. No other pipe or material of any kind shall be placed inside of a pipe or fitting after the coating has been applied. The interior of pipe and accessories shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging or other approved method.

D. Excavation and Backfill: The Subcontractor shall do all necessary excavation, backfilling and compaction for proper installation of the irrigation system. Backfill material shall be free from rock, large stones, or other unsuitable substances. Protect trenches and backfill material from flooding and/or contamination.

3.2 IRRIGATION SYSTEM INSTALLATIONPROCEDURES FOR LAYOUT

A. General: Pipe shall have a firm, uniform bearing for the entire length of each line to prevent uneven settlement. Wedging or blocking of pipe will not be permitted. Pad the trench bottom of all main lines with clean fill after testing, cover and surround pipe with backfill. In areas of rock, shale or other hard material, provide sand or other acceptable backfill in place of excavated material. Plastic pipe shall be cut with a tubing cutter or a hand saw or hack saw in a manner so as to ensure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow of water will result.

B. Joints: Only the solvent recommended by the pipe manufacturer shall be used for solvent-weld joints. Solvent-weld joints shall be made in strict accordance with the manufacturer's recommendations observing all desirable trade practices. PVC pipe connected by solvent welds shall not be snaked in trenches.

C. Adapters: All plastic to metal joints shall be made with plastic male adapters or PVC Schedule 80 nipples. Use Teflon tape on the threads.

D. Trenches: Lay PVC pipe in dry trenches when temperature is above 32 degrees F. Minimum ground cover over PVC pipe shall be as follows: Mainlines shall have a minimum depth of cover of 18" up to 1 1/2" diameter, 24" up to 3" diameter, 36" over 4" diameter. Lateral lines shall have a minimum depth of cover of twelve inches (12"). All pipe shall be

E. Backfill: Because of expansion and contraction of PVC pipe, backfilling shall be done in the cool part of the day. If this is not practical, water flooding of trenches is necessary before and during backfill. Compact and/or puddle all trenches to prevent after-settling.

F. Completion: After installation is completed, return the entire area surface to a condition satisfactory for any future work operation.

G. Sprinkler Heads: Elevation of the sprinkler heads is critical. The Subcontractor shall exercise care to set heads and risers plumb and at the proper level so as to prevent interference or danger to maintenance operations and users. Sprinkler heads, in areas where sod is to be laid, shall be installed 1 1/2" above finish grade, where heads are installed along walks, roads, established lawns, etc., they shall be positioned no higher than the adjacent walk, road or established lawn and six inches (6") removed from paving. Final adjustment of head elevations shall be made after sod has been installed and seeded turf areas established.

H. Adjustment: All nozzles on pop-up sprinklers shall be tightened after installation. All sprinklers having an adjustment stem shall be adjusted for the proper radius, diameter and/or gallonage.

I. Control Valves: All valves shall be installed in strict accordance with the manufacturer's recommendations. All valves shall be installed in valve boxes as specified so as to be easily accessible for maintenance and manual operation. More than one valve may be installed per valve box if size permits.

J. Valve Boxes: All valve boxes shall be installed with at least 4" depth of 3/4" gravel below the bottom edge of the valve box. The size of the gravel bed shall be at least 40% larger than the valve box. Valve boxes shall be installed so that the lid, in the locked position, is one inch (1") above finish grade of established turf. The valve shall be rested in the gravel but not covered by the gravel. Provide valve box extensions where required.

K. Manual Drains: Provide a two inch (2") PVC sleeve with cover as specified for each drain valve. Keep sleeve plumb and level with established turf grades. Install gravel drain sump of one (1) cubic foot volume below drains.

L. Irrigation Control Cable: Verification of wire types and installation procedures should be checked to conform to local codes. Install wires in mainline trench where possible in a consistent manner, i.e., below and to one side. "Hot" wires are to be of one color and all "common" wires are to be of another color.

M. Connections: Connecting and splicing of wire at the valve or in the field shall be made with dry splice connectors and sealant. All underground splices in the control wiring shall be made completely waterproof after being properly insulated. Provide a 18"-24" loop of wire at all splices, valves, controller etc., and for every 500' of run.

N. Controller: Wall mount controller with locking protective cover unless otherwise specified. Install in accordance with manufacturer's directions and local codes. Electrical connection shall be direct wiring in conduit. Power source to point of junction box shall be supplied by Contractor.

4.1 IRRIGATION SYSTEM FLUSHING, TESTING, AND ADJUSTING

A. General: All procedures of this section shall be conducted by the Subcontractor completely as individual operations on the total system at one time without interruption. After installation of pipe, risers, valves and other elements except heads, completely flush the entire system by operation of valves until any foreign matter is removed. Minimum time for flushing shall be two minutes at normal operational pressure. Heads with removable nozzles may not be installed prior to flushing. Install heads, nozzles or plugs immediately after flushing.

B. Testing: Testing of the entire system shall follow these procedures:

1. Pressure mainline for two (2) hours at expected normal pressure.
2. Test the entire system through valves and heads by operating for at least ten (10) minutes per each valve zone.
3. Operate the controller through at least two complete cycles of every zone at minimum time of two (2) minutes.

C. Leaks: After any leaks have been determined and corrected, retest the system through the test operation used to detect the leaks. The system shall be considered tested when no leaks appear during any testing operation and the pattern coverage is adequate and appropriate. The Subcontractor shall notify the Architect of the time of testing at least 24 hours before testing operations. No testing shall be conducted until joints have cured 24 hours.

D. Final Adjustment: Final adjustment of head levels and coverages shall take place during turf establishment. Insure that the system is at maximum function and performance before beginning sod or seeding operations.

E. Clean-up: Provide a continuous process throughout the construction period on a daily basis. Upon completion of the installation, all remaining debris and surplus materials resulting from the work shall be removed.

F. Operating Instructions: When the installation is complete, the Subcontractor will notify the Architect and owner to demonstrate the system performance and give operating instructions. The Subcontractor shall provide the owner with an "as built" condition of the system with the control valves identified by number, number of heads of each type, and controller station number.

G. Maintenance: Subcontractor shall be responsible for the winterization of the entire system following the first season to prevent freezing. The main line and all lateral lines shall be blown out as completely as possible using compressed air. Subcontractor shall also turn on the system the following spring and shall thoroughly test the entire system to ensure proper functioning, making any adjustments repair or replacement as necessary

H. Guarantee: The Subcontractor, for a period of one year after completion of installation, shall replace all parts which prove defective in material or workmanship or damage caused by improper elevation or placement. Any settling of backfilled trenches which may occur during the guarantee period shall be repaired without expense to the owner, including the complete restoration of all damaged property.

IRRIGATION PLAN BY

WATER ENGINEERING INC
17897 W. 53RD DR.
GOLDEN, CO 80403
303-618-6307 303-271-0026
TOM CARROLL TCR #4180
CARROLLEMAIL@AOL.COM

New Hope Presbyterian Church
Project No. 05030.1

The Meadows Filing No. 21, Final PD Site Plan

Owner Address: New Hope Presbyterian Church
2100 W. Meadows Parkway
Castle Rock, CO 80104
(303)660-0057 F (303)660-1532

Architect Address: Eidos Architects
5400 South Syracuse St.
Greenwood Village, CO. 80231
(720)200-0630 F (720)200-0631

Land Surveyor Address: MVE
1903 LeLaray Street, Suite 200
Colorado Springs, Colorado 80909
(719)635-5736 F (719)635-5450

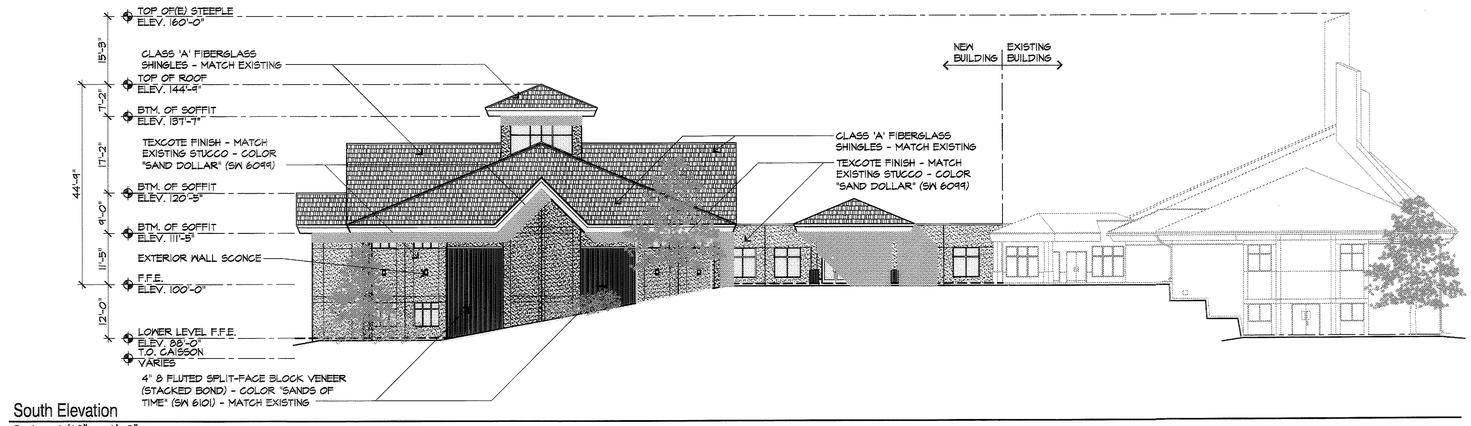
Date: 11/15/2006
Revised: 4/10/2007
Revised: 8/8/2007
Revised: 10/31/07

Irrigation Notes & Details
Sheet 8 of 10

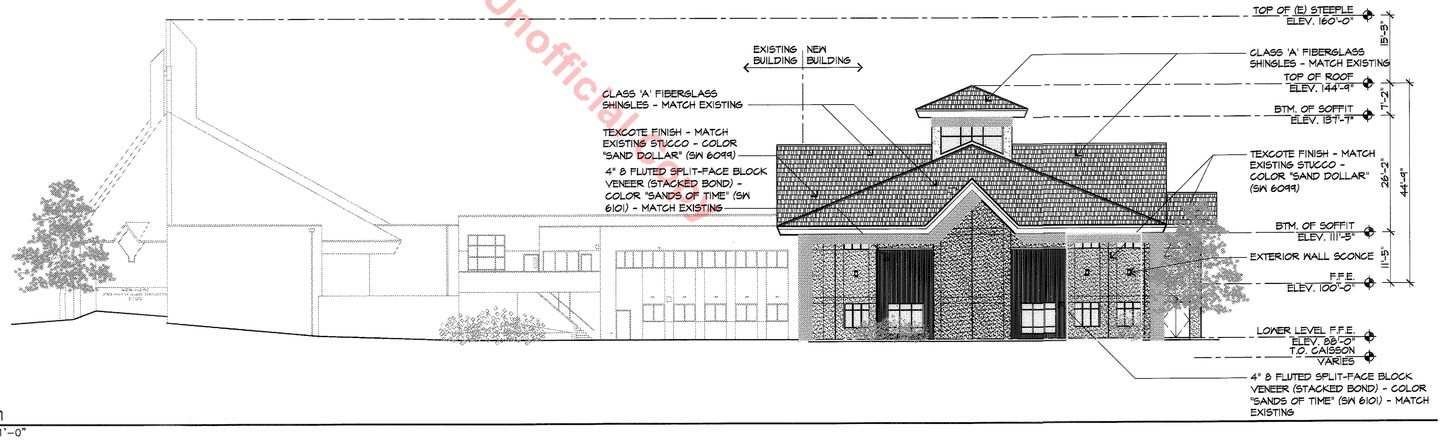
THE MEADOWS FILING No. 21 FINAL PD SITE PLAN

A part of the NW 1/4 of Section 34, Township 7 South, Range 67 West of the 6th P.M.
Lot 1, The Meadows Filing No. 21, According to the recorded plat there of.
Town of Castle Rock, Douglas County, Colorado

Building Elevations



South Elevation
Scale: 1/16" = 1'-0"



North Elevation
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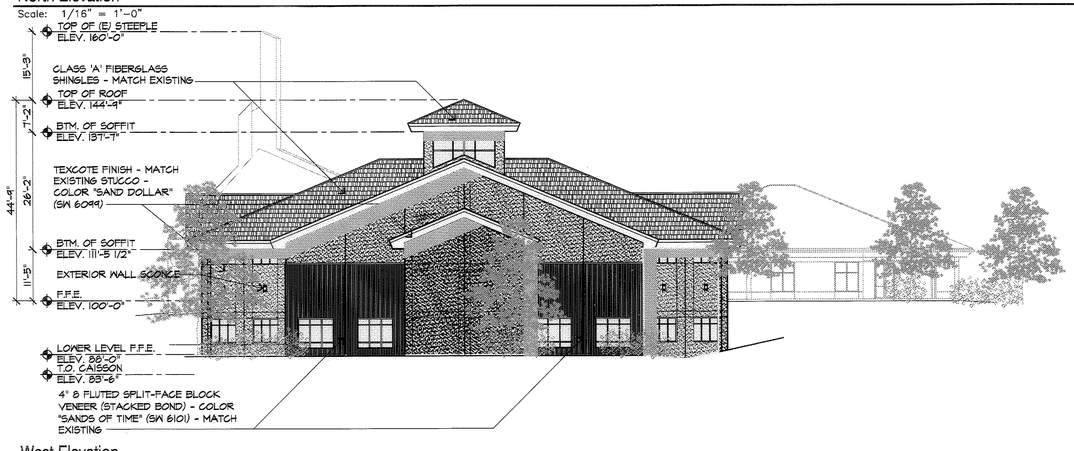

West Elevation
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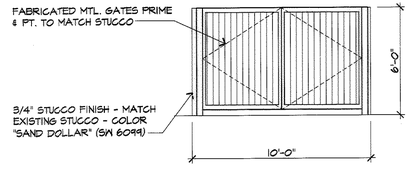

Trash Enclosure Elevation
Scale: 1/8" = 1'-0"

New Hope Presbyterian Church
Project No. 05030.1

Meadows Filing No. 21, Final PD Site Plan

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Castle Rock, CO 80104
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Architect Address **Eidos Architects**
5400 South Syracuse St.
Greenwood Village, CO. 80231
(720)200-0630 F (720)200-0631

Land Surveyor Address: **MVE**
1903 LeLaray Street, Suite 200
Colorado Springs, Colorado 80909
(719)635-5736 F (719)635-5450

Date: **11/14/06**
Revised: **4/10/07**
Revised: **8/8/07**
Revised: **10/31/07**

Building Elevations
Sheet 9 of 10

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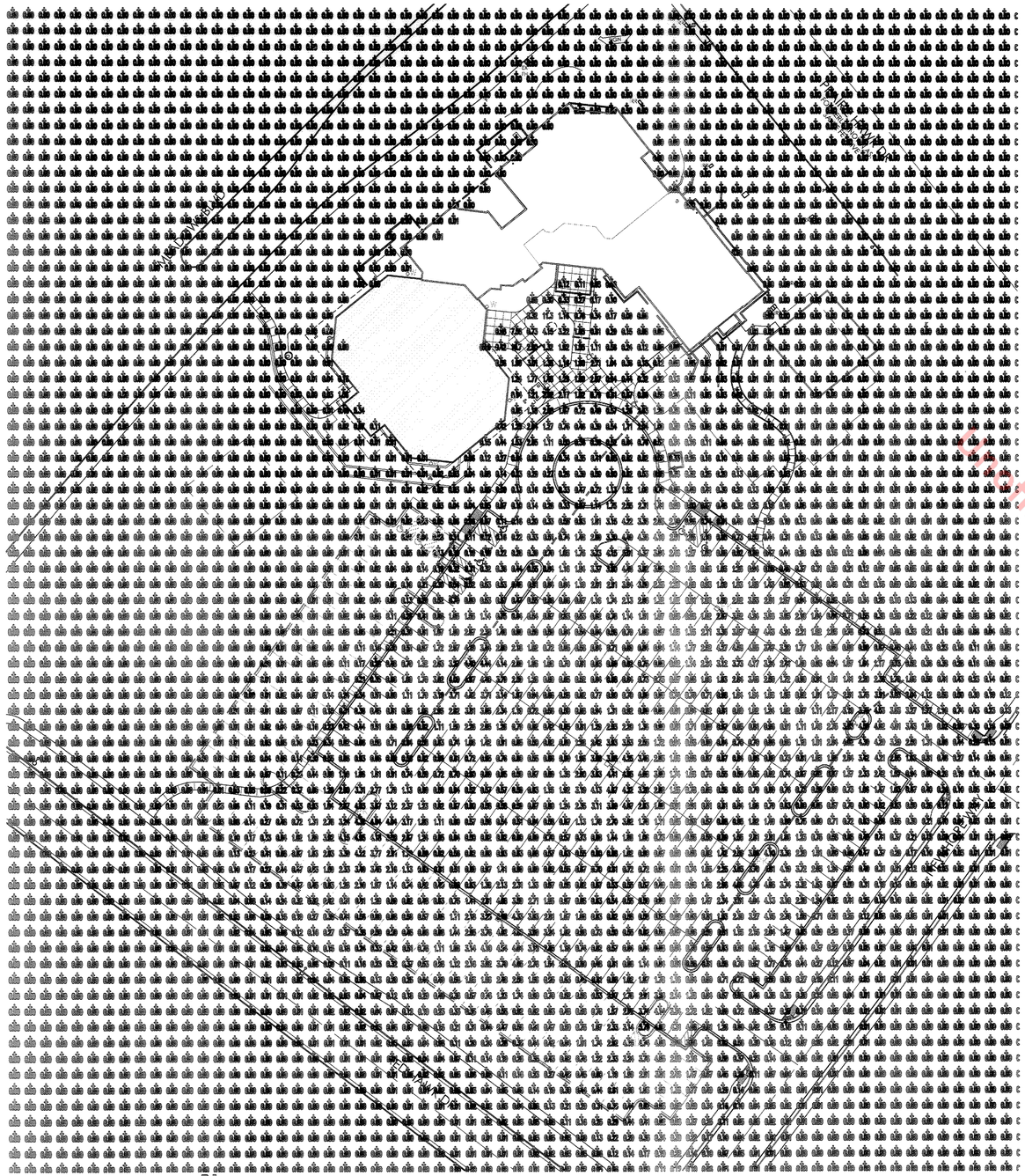
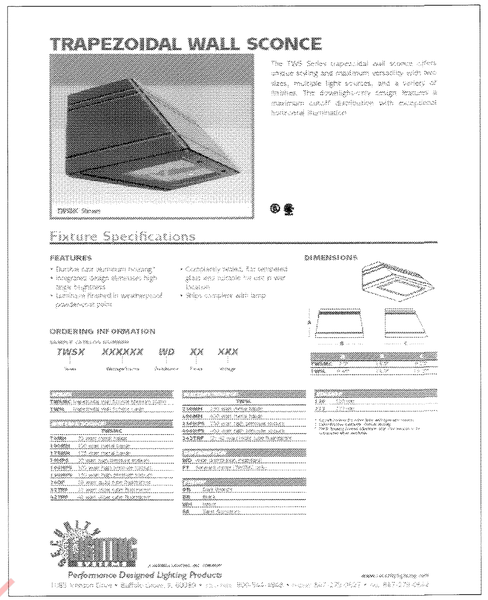
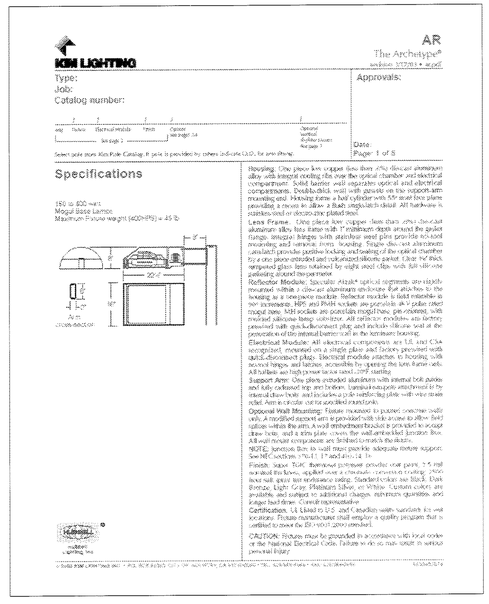


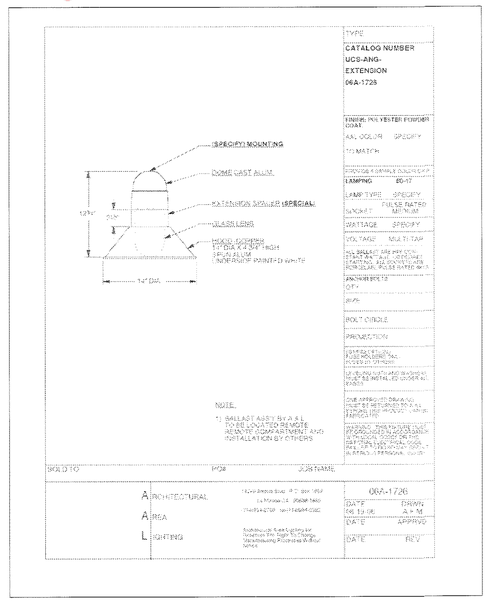
Site Photometric Plan
Scale: 1" = 40'-0"



Luminaire Type "W"
Scale: none



Luminaire Type "PK"
Scale: none



Luminaire Type 'PT'
Scale: none

LUMINAIRE SCHEDULE							
TYP	SYMBOL	DESCRIPTION	LAMP	LUMENS	MOUNTING/BAL	LLF	QTY
PK		KIM LIGHTING Single V (1) "Z" AR5/250MH	(1)	23000	22.5 na	1.00	9
PT		ARCHITECTURAL A PED (1) "Y" UCS-STR	(1) MH50W/U. LUMEN RATIN	3200	12' na	1.00	4
W		SECURITY LIGHT Wall Mount (1) "X" TWSM-32PLT-WT	(1) 32PLT	2400	na na	1.00	6

Site Illumination Control

ALL SITE ILLUMINATION WILL BE ENABLED BY A PHOTOCELL. THE MAJORITY OF LUMINAIRES WILL BE TURNED OFF BY A TIME CLOCK AFTER HOURS. SELECTED SECURITY ILLUMINATION INCLUDING MAIN BUILDING ENTRANCES AND TWO PARKING LIGHTS WILL REMAIN ON FROM DUSK TO DAWN. SIDE BUILDING ENTRANCES SECURITY LIGHTING WILL ONLY BE ACTIVATED BY MOTION SENSORS.

PROJECT No. 6013
B.F. Hammond Electrical Design, LLC
9449 Schlagel Street, Longmont, CO 80503
Office: (303) 678-0445 or 1-800-682-0446
Fax: (303) 651-2625
Email: bfhammond@comcast.net

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Sheet 10 of 10